Model VP-5512P

Service

P.N# MEP5512P-0

Matsushita

MANUAL PART NO.
MEP5512P-0

OSCILLOSCOPE

VP-5512P

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SAFETY PRECAUTIONS

GENERAL

This instrument has been designed and tested to ensure reasonable personal protection and protection of the surrounding area against damage, and has been supplied in a safe condition. The following precautions must be observed by the user to ensure safe operation and to retain the instrument in a safe condition.

BEFORE SUPPLYING POWER

Verify that the instrument is set to suit the available mains voltage and that the correct fuse is installed.

PROTECTIVE EARTH

The protective earth of the instrument must be connected to the earth before connecting the instrument to the product input or output terminals. A protective ground connection by way of the grounding conductor in the power cable is essential for safe operation.
The plug shall only be inserted into a socket outlet provided with a protective earth contact.

SAFETY SYMBOLS

⚠ Instruction manual symbol : The instrument will be marked with this symbol when it is necessary for the user to refer to the instruction manual for safety.

↯ High voltage symbol : Dangerous voltage exceeding 1 kV is indicated by this symbol.

⏚ Protective earth terminal.

WARNING The WARNING sign is a heading of the requirement(s) that should be observed to avoid personal or fire hazards.

CAUTION The CAUTION sign leads the precaution(s) that should be observed to avoid damage or destruction of the instrument.

POWER SOURCE

This instrument is intended to operate from a mains supply that will not be more than 250 volts rms.
For suitable voltage selection, see the INSTALLATION paragraph in this manual.

HAZARD ARISING FROM LOSS OF GROUND

The protective action must not be negated by the use of an extension cord without protective conductor.
If this instrument is to be energized via an autotransformer for voltage reduction make sure the common terminals is connected to the earth terminal of the power source.

DAMAGE IN TRANSPORT OF STORAGE

Whenever it is likely that protection has been impaired, for example as a result of damage caused by abnormal stresses in transport or storage, the instrument shall be made inoperative and be secured against any unintended operation.

USE OF PROPER FUSE

Use only the fuse of correct type, voltage rating and current rating as specified in the INSTALLATION paragraph in this manual.

REMOVAL OF COVERS

Removal of covers is likely to expose live parts although reasonable precautions have been taken in the design of the instrument to shield such parts. The instrument shall be disconnected from the supply before carrying out any adjustment, replacement or maintenance and repair during which the instrument shall be opened. If any adjustment, maintenance or repair under voltage is inevitable it shall only be carried out by a qualified personnel who is aware of the hazard involved.

DO NOT OPERATE IN EXPLOSIVE ATMOSPHERES

To avoid explosion, do not operate the instrument in an explosive atmoshpere.

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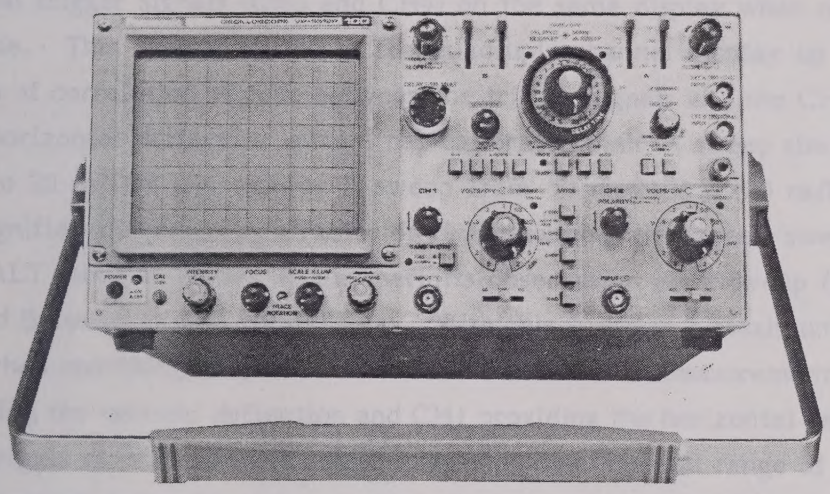
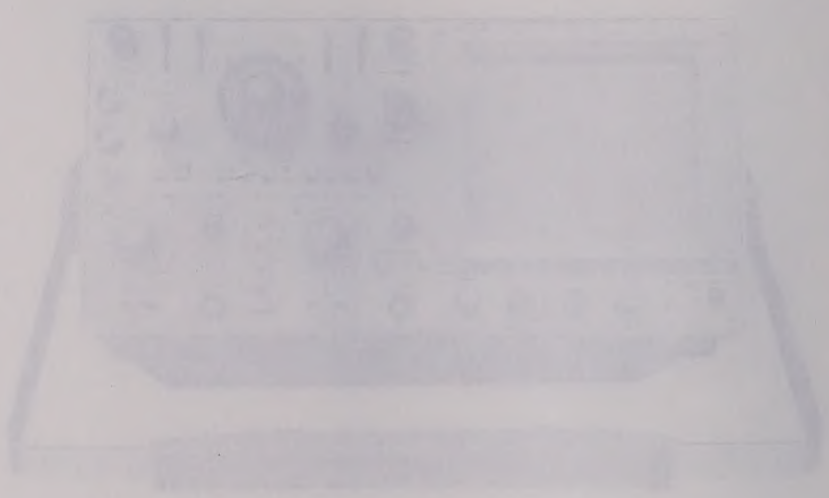


VP-5512P



SECTION I
GENERAL

1-1 DESCRIPTION

The Model VP-5512P is a small, light weight and easy-to use oscilloscope designed for general-purpose bench or field use.

The dual-channel, DC to 100 MHz vertical system provides calibrated deflection coefficients from 5 mV/DIV to 5 V/DIV. Maximum sensitivity of 2 mV/DIV to 70 MHz is also provided on each channel. The QUAD mode permits observation of CH1, CH2 signals and two external trigger signals (CH3 and CH4) on the same display when operating in ALT or CHOP mode. This function is used for quadruple-channel display up to 70 MHz or for observation of correlation of time between the trigger signals and the CH1 and CH2 signals.

The horizontal deflection system has calibrated main A sweep time coefficients from 0.5 s/DIV to 20 ns/DIV and delayed B sweep from 50 ms/DIV to 20 ns/DIV. A x 10 MAG control magnifies all sweeps by a factor of 10 and extends the fastest sweep to 2 ns/DIV.

The ALT mode of sweep display permits observation of A sweep (with an intensified portion) and B sweep on the same display. With this function a maximum of 8 traces can be displayed when operating in QUAD mode. Calibrated X-Y measurement can be made with CH2 providing the vertical deflection and CH1 providing the horizontal deflection.

The trigger circuit provides stable triggering over the full range of vertical bandwidth and for television composite video signals. Separate trigger controls are provided to select the desired triggering for the main A and delayed B sweeps.

The "FIX" position of the A sweep triggering level control is especially useful for general waveform observation since it eliminates the need of triggering operation for certain range of input trigger signals. One of three sweep modes can be selected for A sweep ; automatic triggering, normal triggering or single sweep.

1-2 CONTENTS OF THIS MANUAL

Instrument specifications are described in section II. Section III supplies information required to install the instrument with some precautions for safety.

Operating information is found in section IV. Sections V and later part of this manyal will be useful for test, adjustment and service of the Model VP-5512P Oscilloscope.

SECTION II
SPECIFICATIONS

(Warm-up time for given accuracy is 15 minutes.)

Designation	Performance	Conditions or remarks
2-1 ELECTRICAL CHARACTERISTICS		
(1) CRT		
Type	Matsushita 150CDB31	
Screen type	P31 phosphor	
Total acceleration voltage	18 kV	
Measuring area	80 mm x 100 mm	8 DIV high x 10 DIV wide.
(2) Vertical axis (CH1 or CH2)		
Deflection coefficients	2 mV/DIV to 5 V/DIV	11 calibrated positions in a 1-2-5 sequence. Uncalibrated variable control between the positions and up to at least 12.5 V/DIV.
Error limits	±2 %	+10 °C to +35 °C.
	±4 %	0 °C to +50 °C.
Response		
Frequency range		
2 mV/DIV	DC to 70 MHz	-3 dB bandwidth DC coupled.
5 mV to 5 V/DIV	DC to 100 MHz	-3 dB bandwidth DC coupled.
Rise time		
2 mV/DIV	≤ 5 ns	
5 mV to 5 V/DIV	≤ 3.5 ns	
AC low-frequency response	Approx. 4 Hz	-3 dB, AC coupled.
Max. permissible input voltage	500 V	DC + AC peak, below 1 kHz.
Input impedance	1 MΩ ± 2 %, 22pF ± 10 %	
Instability of the spot position		
Temperature drift		
2 mV/DIV	≤ 0.3 DIV/ °C	
5 mV to 5V/DIV	≤ 0.1 DIV/ °C	
Long-term drift		
2 mV/DIV	≤ 1.5 DIV/hour	
5 mV to 5 V/DIV	≤ 0.5 DIV/hour	
(3) Vertical axis (CH3 or CH4)		
Deflection coefficients	0.5 V/DIV and 5 V/DIV	EXT, EXT ÷ 10.
Error limit	±30 %	
Frequency range	DC to 70 MHz	-3 dB bandwidth DC coupled.
Signal delay	≤ 2.5 ns	With respect to CH1 or CH2.
Max. permissible input voltage	300 V	DC + AC peak, below 1 kHz.
Input impedance	1 MΩ ± 10 %, ≤ 25 pF	

Designation	Performance	Conditions or remarks
(4) Vertical axis (General)		
Display modes	CH1 : channel 1 only. CH2 : channel 2 only. ALT : Dual-trace, alternate between channels. CHOP : Dual-trace, chopped between channels. ADD : Added algebraically QUAD : Quadruple-trace, alternate or chopped.	
Switching rate in CHOP mode	500 kHz ± 40 %	
Apparent signal delay	Approx. 20 ns	
Bandwidth limiter	Approx. 20 MHz	-3 dB bandwidth.
CH1 SIG OUT		
Voltage	10 mV/DIV ± 10 %	
Frequency range	DC to 10 MHz	-3 dB bandwidth.
Rise time	≤ 35 ns	
(5) Horizontal axis (General)		
Display modes	A : Main A sweep. A INTEN : Main A sweep with intensified portion by delayed B sweep. B : Delayed B sweep. ALT : Dual-trace, alternate between B and A INTEN. X-Y : X-Y display.	X-axis deflection by CH1 signal.
(6) Horizontal axis (Time base — Main A sweep and delayed B sweep)		
Main A sweep modes	AUTO : Freerunning and automatically triggered. NORM : Triggered. SINGLE : Single shot.	
Time coefficients		
Main A sweep	0.5 s/DIV to 20 ns/DIV	23 calibrated positions in a 1-2-5 sequence. Uncalibrated variable control between the positions and down to 1.25 s/DIV.
Delayed B sweep	50 ms/DIV to 20 ns/DIV	20 calibrated positions in a 1-2-5 sequence.
Error limits		
0.2 s to 50 ns/DIV	±2 % ±4 %	+10 °C to +35 °C. 0 °C to +50 °C.
0.5 s and 20 ns/DIV	±3 % ±5 %	+10 °C to +35 °C 0 °C to +50 °C

Designation	Performance	Conditions or remarks
Magnifier		
Magnification	x 10	Switched, calibrated.
Max. effective time coefficient	2 ns/DIV	
Additional error	±1 %	Exclude first and last 50 ns.
Linearity		
Up to 10 ns/DIV	±2 %	Within middle 8 DIV of the display,
5 ns and 2 ns/DIV	±3 %	Exclude first and last 50 ns.
Main A sweep holdoff time	Can be increased at least by a factor of 4.	
Main A sweep length	11.5 DIV ± 1 DIV	
Delay time		
Variable range	Continuously variable between 5 s and 0.5 µs	(MAIN A SWEEP TIME/DIV) x (DELAY TIME MULT).
Multiplier linearity	±0.3 %	+10 °C to + 35 °C.
	±0.4 %	0 °C to +50 °C.
Jitter	< 1 : 20,000	With the MAIN A SWEEP TIME/DIV set at 1 ms and the DELAYED B SWEEP TIME/DIV set at 1 µs.

(7) Horizontal axis (A and B triggering)

Trigger source	INT : CH1	Internal from CH1 only.
	CH2	Internal from CH2 only.
	NORM	Internal from displayed channel(s).
	LINE	Internal from mains power line.
	EXT, EXT ÷ 10	Externally applied signal(s).
Trigger coupling	AC	
	AC LF	
	TV (V)	For main A sweep trigger only.
	TV (H)	For delayed B sweep trigger only.
	DC	
Trigger slope	+ or -	
A triggering mode	normal	
	FIX	Automatic triggering.
B triggering mode	normal	
	FREERUN	

Trigger thresholds in normal mode

Coupling	Frequency	Source	
		INT	EXT
AC	30 Hz - 10 MHz 30 Hz - 100 MHz	0.3 DIV 2 DIV	100 mV 500 mV
AC LF	30 Hz - 50 kHz	0.4 DIV	120 mV
TV(V),(H)	TV sync signal	1 DIV	250 mV
DC	DC - 10 MHz DC - 100 MHz	0.3DIV 2 DIV	100 mV 500 mV

Polarity : sync negative.

Designation	Performance	Conditions or remarks

Trigger thresholds in FIX mode (for A triggering only)

Coupling	Frequency	Source	
		INT	EXT
AC	100 Hz - 5 MHz 100 Hz - 100 MHz	0.5 DIV 3 DIV	200 mV 750 mV
AC LF	100 Hz - 50 kHz	0.6 DIV	250 mV
TV(V),(H)	TV sync signal	1.5 DIV	400 mV
DC	100 Hz - 5 MHz 100 Hz - 100 MHz	0.5 DIV 3 DIV	200 mV 750 mV

Triggerable on the waveform with duty factor between 1 : 10 and 10 : 1

Polacity : sync negative.

AUTO sweep mode	Stable display presented with the same trigger thresholds for signals above 100 Hz.	Presents a free running display for lower frequencies or in the absence of an adequate trigger signal.
SINGLE sweep	Produces only one sweep when triggered.	Trigger thresholds are the same as specified above.
External input impedance	1 MΩ ± 10 %, ≤ 25 pF	
Max. permissible input voltage	300 V	DC + AC peak, below 1 kHz.

(8) X-Y operation (CH1 = X, CH2 = Y)

X and Y deflection coefficients	2 mV/DIV to 5 V/DIV	Same as vertical CH1 and CH2.
Error limits	±5 %	+10 °C to +35 °C.
	±6 %	0 °C to +50 °C.
X frequency range	DC to 1 MHz	-3 dB bandwidth DC coupled.
X and Y input impedance	1 MΩ ± 2 %, 22 pF ±10 %	
X and Y phase difference	≤ 3 ° at 1 MHz	

(9) Z-axis

Intensity modulation	5 V signal produces noticeable modulation at normal intensity.	
Polarity	Positive-going input signal decreases trace intensity.	
Frequeqncy range	DC to 20 MHz	
Input resistance	47 kΩ ± 10 %	
Max. permissible input voltage	50 V	DC + AC peak, below 1 kHz.

(10) Calibrator

Waveform	Square-wave	Duty factor : 40 to 60 %
Polarity	Positive-going	
Output voltage	0.3 V	Output resistance : < 100 Ω
Error limit	±1 %	
Frequency	1 kHz ± 10 %	
Rise time	≤ 10 µs	
(Output current)	5 mA ± 1 %	Option

Designation	Performance	Conditions or remarks
(11) Power supply		
Mains voltages	100 V : 90 V to 112 V 120 V : 106 V to 132 V 220 V : 196 V to 244 V 240 V : 214 V to 250 V	
Mains frequency	50 to 60 Hz	
Power consumption	Approx. 60 VA, 50 W	

2-2 ENVIRONMENTAL CHARACTERISTICS

Ambient temperature	0 °C to 50 °C	Limit range of operation.
	-20 °C to 70 °C	Storage and transportation.
Humidity (R.H.)	10 to 80 %	Limit range of operation.
	0 to 80 %	Storage and transportation.
Shock	2 shocks of 30 G, one-half sine, to each surface.	Total 12 shocks.
Vibration	15 mimutes along each of the three major axes at a total displacement of 0.6 mm peak-to-peak with frequency variation of 600-3300-600 r.p.m. in one-minute cycles. Hold at 3300 r.p.m. for 3 minutes on each axis.	Total test time : 54 mimutes
Drop test	75 cm drop on any corner, edge or flat surface.	Packed in a shipping carton. Total 10 drops.

2-3 MECHANICAL CHARACTERISTICS

Dimensions

	Height (mm)	Width (mm)	Depth (mm)
Frame	149 ± 3	311 ± 3	400 ± 3
Overall (max. points)	165	365	545

Include feet, handle and optional front cover.

Weight	Approx. 10 kg	Without accessories.

2-4 ACCESSORIES FURNISHED

1 ----- Accessory box
2 ----- Probe
1 ----- Square hood
2 ----- BNC adapter
1 ----- Fuse (1A for mains voltages 100 V and 120 V,
0.5 A for mains voltages 220 V and 240 V)
1 ----- Allen wrench 1/64"
1 ----- Allen wrench 3/64"
1 ----- Lamp (scale illumination)
1 ----- Instruction manual

2-5 OPTIONAL ACCESSORY

Front cover

SECTION III
INSTALLATION

3-1 POWER REQUIREMENTS

The Model VP-5512P can be operated from any power source supplying 100 V, 120 V, 220 V and 240 V (nominal values), 50 or 60 Hz. Power consumption is less than 80 VA.

WARNING

Before connecting ac power to the instrument, be sure it is set for the proper mains voltage and is properly fused as indicated on the rear panel. (See fig. 3-1)

Voltage selection switches
(shown set for 100 V)

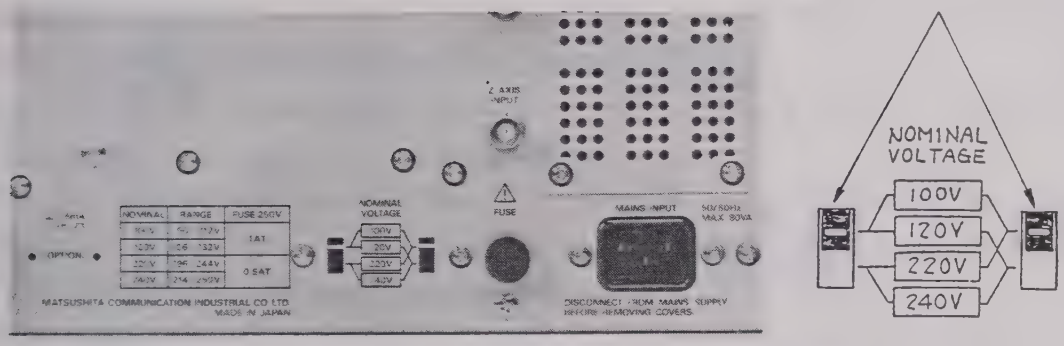


Fig. 3-1 A part of rear panel

3-2 MAINS VOLTAGE SELECTION

Refer to Fig.3-1. Set the NOMINAL VOLTAGE switches to the setting (100 V, 120 V, 220 V or 240 V) that corresponds to the mains voltage to be used. The voltage must be within the range noted at the left side of the switches.

3-3 FUSE

Verify that the proper fuse is installed in the fuse holder. Ratings of the fuse are noted on the rear panel as shown in Fig. 3-1 and listed below with Panasonic part numbers.

Nominal voltage	Fuse
100 V	250 V 1AT
120 V	IEC1AT
220 V	250 V 0.5 AT
240 V	IEC500MAT

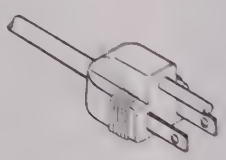
WARNING

Make sure that only fuse with the required rated current and of the specified type is used for replacement. The use of makeshift fuse and the short-circuiting of fuse holder are prohibited.

3-4 POWER CABLE

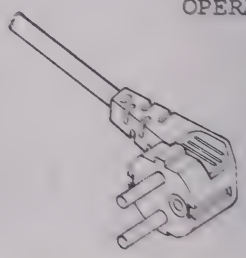
The VP-5512P is equipped with a detachable power cable assembly. The type of the plug shipped with each instrument depends on the country of destination. The figure below illustrates the power cables available with Panasonic part numbers.

125V
OPERATION



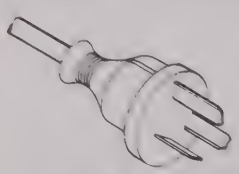
33-76B-2M

250V
OPERATION



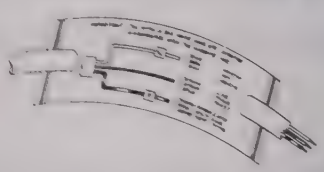
99-81-2M

250V
OPERATION



418-481-2M

250V
OPERATION



76W004

3-5 MOUNTING CONSIDERATIONS

The handle of the VP-5512P can be positioned for carrying or as a tilt-stand for the instrument. To position the handle, press in at both pivot points and turn the handle to the desired position.

The instrument may also be set on the rear feet either for operation or storage.

CAUTION

Since the VP-5512P is cooled by air through hole in the top and bottom covers, the following cautions should be observed during the operation peroid of the instrument.

1. Allow at least 3 cm clearance on both sides.
2. Do not block the airflow from the holes on the top cover.

3-6 INTERCONNECTION WITH OTHER EQUIPMENT

Plug the power cable into a properly wired receptacle before connecting the instrument to the other equipment with probes or BNC cables.

Since the outer metal shell of the CH1 SIG OUT connector on the rear panel is connected to the chassis through a 5-ohm resistor, it cannot be floated and should be regarded as directly grounded point for actual applications.

The metal terminal on the front panel is a measuring earth terminal directly connected to the chassis. It may be used to connect the outer braids of shielded wires or other lead wires to be grounded.

Note : Four BNC receptacles on the front panel of this instrument are mounted with a slight tilt. The operational ease of the front panel controls will be found when probes and cables are connected to these receptacles.

SECTION IV
OPERATION

4-1 GENERAL

This section describes general cautions and the operation of the front- and rear-panel controls and connectors including the controls on the bottom and gives several basic operation procedures for this instrument.

4-2 OPERATING CONSIDERATIONS

(1) Intensity of the trace

INTENSITY set too high can cause CRT damage. Be sure to decrease the intensity especially when the sweep speed is reduced or when the spot is fixed at a place for a prolonged period of time.

(2) Gradient of the trace

If a freerunning trace is not parallel to the horizontal graticule lines, set the TRACE ROTATION adjustment on the front panel.

(3) Scale illumination

The graticule lines are illuminated as desired by rotating the SCALE ILLUM control. The graticule lines would be found clearly visible for general waveform observation by extinguishing the scale illumination with the control turned fully conterclockwise. The scale, however, should be illuminated for waveform photographs.

Besides, it is preferable to remove the tinted light filter for better contrast in single sweep waveform photographing.

(4) Intensity (Z-axis) modulation

The rear-panel Z AXIS INPUT connector provides a mean to intensity modulate the crt display. The Z-axis signals must be time-related to the displayed waveform for obtaining a stable presentation on the CRT. The voltage amplitude required for visible trace modulation depends on the setting of the INTENSITY control. At normal intensity level, a five-volt peak-to- peak positive signal will produce a visible modulation in brightness.

(5) Beam finder

Pressing the knob of the SCALE ILLUM (also labeled PUSH FINDER), the intensified beam is restricted to viewing area regardless of control settings. The function helps determine neccessary adjustment (mainly positioning control) to return beam to vewing area.

(6) **Calibrator**

The front-panel terminal labeled CAL 0.3 V provides 0.3 V peak-to-peak positive square-wave output with frequency of approximately 1 kHz. The output signal is used for checking basic vertical gain or for adjusting probe compensation.

The voltage is accurate within ±1 % for a high impedance load. Output resistance is less than 100 ohms. It will be required to take account of this resistance if the external load resistance is less than 50 kilohms.

4-3 CONTROLS AND CONNECTORS

A brief description of the function and operation of the front- and rear-panel controls, connectors, terminals and lights, and adjustments on the bottom appears in the following sequence.

(1) **Front panel**

The front panel is described dividing into three sections as shown in Fig. 4-1.

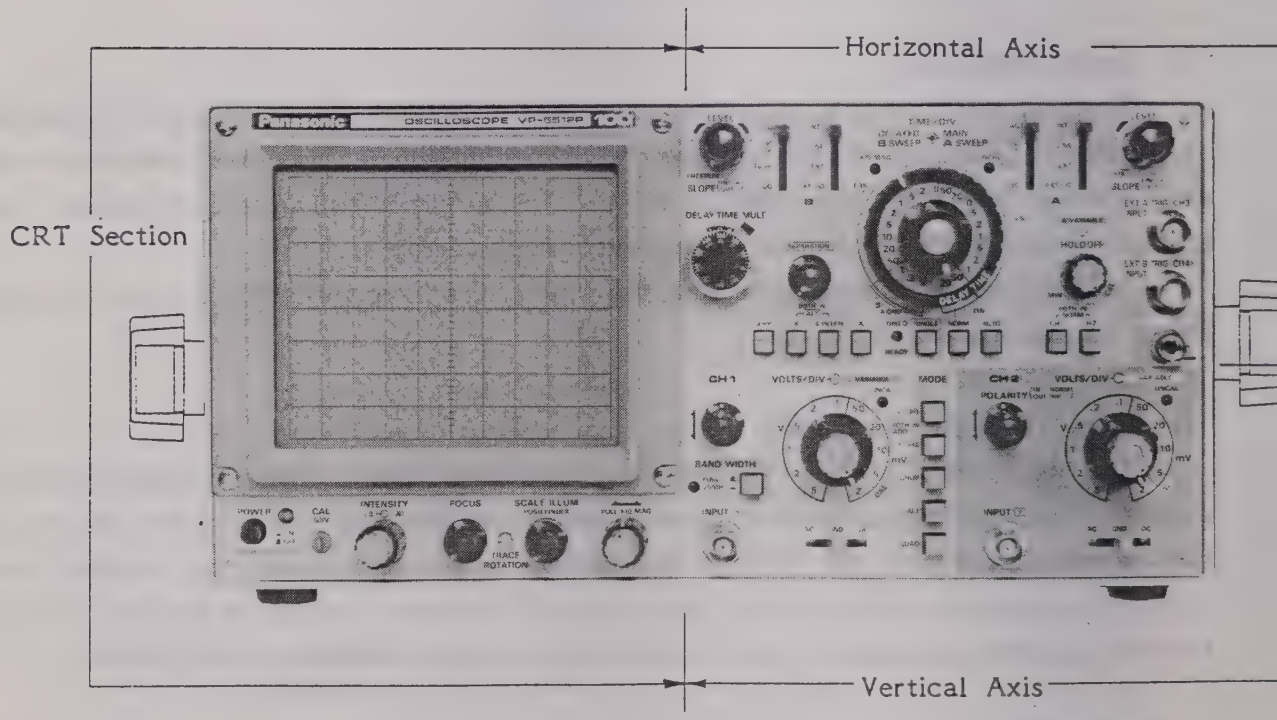


Fig. 4-1 Front panel

(2) **Rear panel** (Fig. 4-5)

(3) **Bottom** (Fig. 4-6)

- CRT Section -

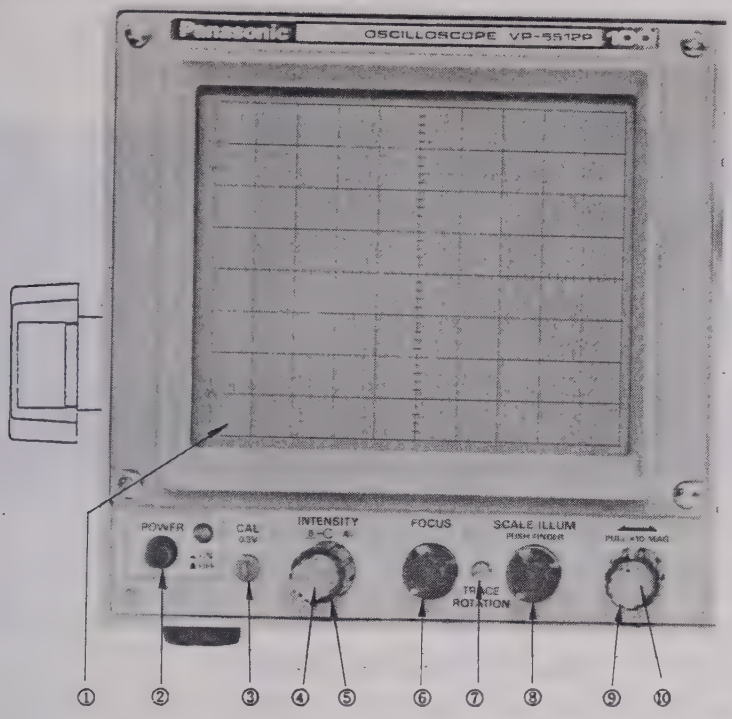


Fig. 4-2 CRT Section

① CRT screen

② POWER ····· Controls power to the instrument. The adjacent light indicates that the instrument is turned on.

③ CAL 0.3 V ····· Provides 0.3 Vp-p square-wave output with frequency around 1kHz.

④ INTENSITY A ····· (Concentric with ⑤) Controls brightness of display.

⑤ INTENSITY B ····· Controls brightness of B sweep trace when the sweep display mode switch ㉕ is set to B or ALT. This control has no effect in other modes.

⑥ FOCUS ····· Adjusts display for optimum definition.

⑦ TRACE ROTATION ····· Screwdriver adjustment used to align trace with horizontal graticule lines.

⑧ SCALE ILLUM ····· Controls graticule illumination.

PUSH FINDER ····· Used to locate the trace when it has disappeared from the effective viewing area of the screen.

⑨ ⟷ ····· Controls horizontal position (X-position of X-Y) of the trace.

⑩ PULL x 10 MAG ····· Provides more precise horizontal position adjustment. When pulled out, this magnifies the A or B sweep and sets the sweep time coefficient to 1/10th. The center one division of the display is expanded horizontally to full ten divisions and the light ㊶ indicates when magnifier is on.

- Vertical Axis -

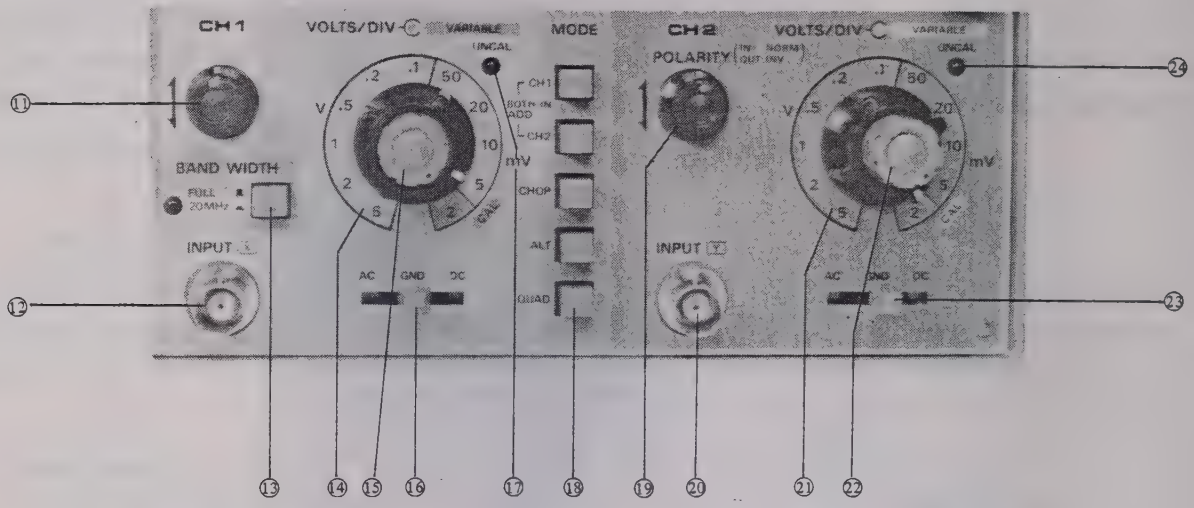


Fig. 4-3 Vertical Axis

⑪ ↕ ..... Controls vertical position of CH1 trace.

⑫ INPUT X ..... Input connector for CH1 deflection signals or X-axis deflection in the X-Y mode of operation.

⑬ BANDWIDTH ..... Limits the bandwidth of complete vertical deflection system to approximately 20 MHz when pressed.

⑭ VOLTS / DIV ..... Used to select the vertical deflection coefficient in a 1-2-5 sequence. VARIABLE knob must be in CAL position to obtain the deflection coefficient indicated.

⑮ VARIABLE ..... Provides continuously variable uncalibrated deflection coefficient between the calibrated settings of the VOLTS/DIV switch. The indicated deflection coefficient may be reduced to a minimum ratio of 1/2.5.

⑯ AC-GND-DC : Used to select the method of coupling input signals to the vertical deflection system.

AC ..... Input signal is capacitively coupled to the vertical amplifier. The dc component of the input signal is blocked. When rectangular waves of less than 1 kHz are AC coupled, the pulse tilt becomes noticeable. Low-frequency limit (-3 dB point) is approximately 4 Hz.

GND ..... Grounds the amplifier input circuit.

DC ····· All frequency components of the input signal are coupled to the vertical deflection system.

⑰ UNCAL ····· Light indicates that the VARIABLE control is not in the CAL position.

⑱ MODE : Used to select the mode of operation for the vertical amplifier system.

CH1 ····· Selects only the CH1 input signal for display.

CH2 ····· Selects only the CH2 input signal for display.

CHOP ····· Dual-trace display of signals on both channels. Display switched between channels at a repetition rate of about 500 kHz. Used for slow sweep signal display.

ALT ····· Alternately displays CH1 and CH2 input signals. The alternation occurs during retrace at the end of each sweep. This mode is useful for rapid sweep signal display.

ADD ····· (Both CH1 and CH2 buttons are depressed.) Displays the algebraic sum of the CH1 and CH2 input signals.

QUAD ····· Permits quadruple-trace display for signals on CH1 and CH2 and trigger signals (as Channels 3 and 4) for indicating timing relationships among these signals. By using external trigger signals, it is possible to display four different signals simultaneously.

Also permits monitoring of the filtering effect of the trigger signal coupling switches ㊲ and ㊸.

⑲ POLARITY ····· Controls vertical position of CH2 trace. When pulled out, inverts the CH2 display.

(IN NORM / OUT INV)

⑳ INPUT [Y] ····· Input connector for CH2 deflection signals or Y-axis deflection in the X-Y mode of operation.

㉑ VOLTS / DIV ····· The same function as ⑭ for CH2.

㉒ VARIABLE ····· The same function as ⑮ for CH2.

㉓ AC-GND-DC ····· The same function as ⑯ for CH2.

㉔ UNCAL ····· The same function as ⑰ for CH2.

- Horizontal Axis -

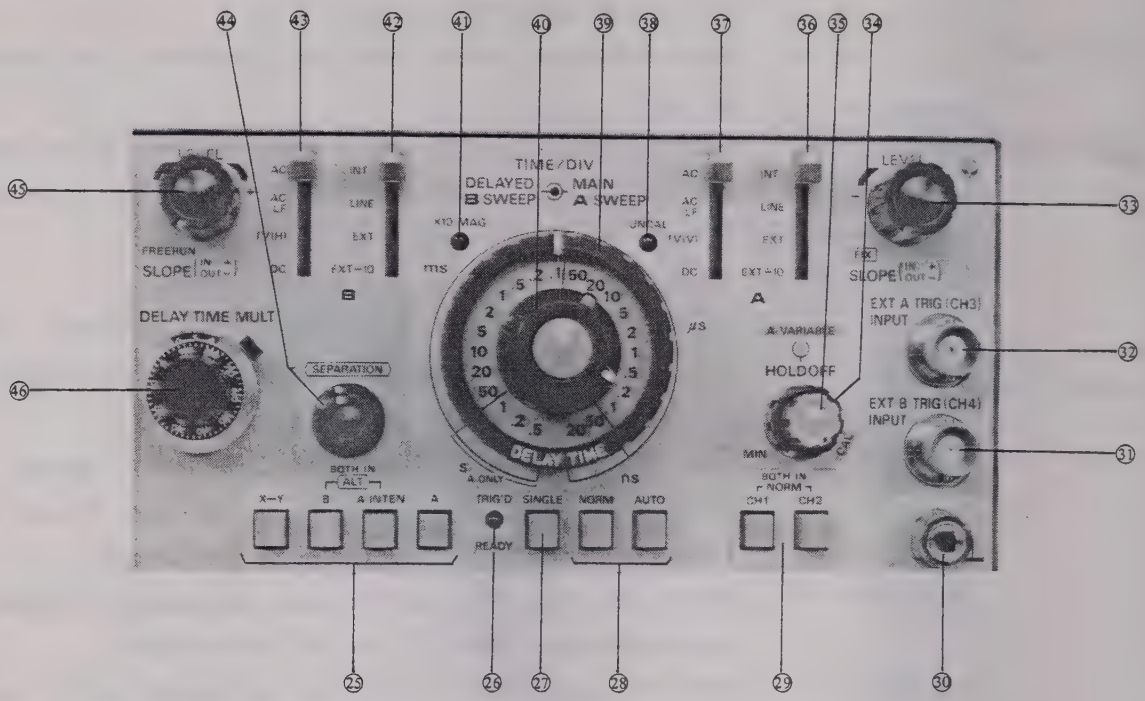


Fig. 4-4 Horizontal Axis

(25) Sweep display mode : Determines the mode of operation for the horizontal deflection system.

A ····· Horizontal deflection provided by the main A sweep. The delayed B sweep inoperative.

A INTEN ····· Sweep time coefficient determined by the MAIN A SWEEP TIME/DIV switch (39). An intensified portion appears on the display during the B sweep time. This switch position provides a check of the duration and position of the B sweep (delayed sweep) with respect to the delaying (main A) sweep.

B ····· Sweep time coefficient determined by the DELAYED B SWEEP TIME/DIV switch (40) with the delay time determined by the setting of the DELAY TIME (MAIN A SWEEP TIME/DIV) switch (39) and the DELAY TIME MULT dial (46).

ALT ····· Alternates the horizontal displays between the A sweep (with an intensified portion) and the B sweep with both A INTEN and B buttons depressed.

X-Y ····· Permits X-Y operation. Signals applied to the CH1 INPUT [X] and the CH2 INPUT [Y] connectors provide X-axis and Y-axis deflection respectively.

㉖ TRIG'D ····· Green LED to indicate a preparation state (waiting for the triggering signal) in the single sweep. (READY) In other sweeps, it indicates that the A sweep is triggered. (TRIG'D)

㉗ SINGLE ····· Cancels two mode buttons NORM and AUTO enabling single sweep mode. Also acts as a reset button for single sweep.

㉘ A sweep mode : Determines the trigger mode for the A sweep.

AUTO ····· In a trigger condition, a stationary waveform is displayed. When there is no trigger signal, or when the triggering level is off, sweep freeruns to produce a bright reference trace.

NORM ····· A waveform is displayed on the screen only in a triggered condition. When there is no triggering signal or when the triggering level is off, no trace will appear.

㉙ (A) Internal trigger source : Selects an internal trigger signal source. When the trigger source switch ㊱ or ㊷ is at INT position, one of the following three trigger signal sources can be selected.

CH1 ····· Sweep circuit is triggered on CH1 signal.

CH2 ····· Sweep ciucuit is triggered on CH2 signal.

NORM ····· Signal displayed on CRT triggers the sweep.

㉚ ⊥ ····· Measuring earth terminal.

㉛ EXT B TRIG (CH4) INPUT ····· Input connector for external trigger signal or CH4 input.

㉜ EXT A TRIG (CH3) INPUT ····· Input connector for external trigger signal or CH3 input.

㉝ (A) LEVEL SLOPE (IN+ OUT-) ····· Selects amplitude point on A sweep trigger signal at which sweep is triggered. When depressed, sweep is triggered on the positive-going portion of the trigger signal and when pulled out, sweep is triggered on the negative-going portion. When turned fully counterclockwise to the FIX position, sweep is automatically triggered for signals over a certain level.

㉞ HOLDOFF ····· Provides continuous control of holdoff time between sweeps to permit the stable display of a complicated repetitive waveform.

㉟ A VARIABLE ····· Provides continuously variable A sweep time coefficient at least 1/2.5 times. A sweep time coefficient is calibrated when the control is set fully clockwise to CAL.

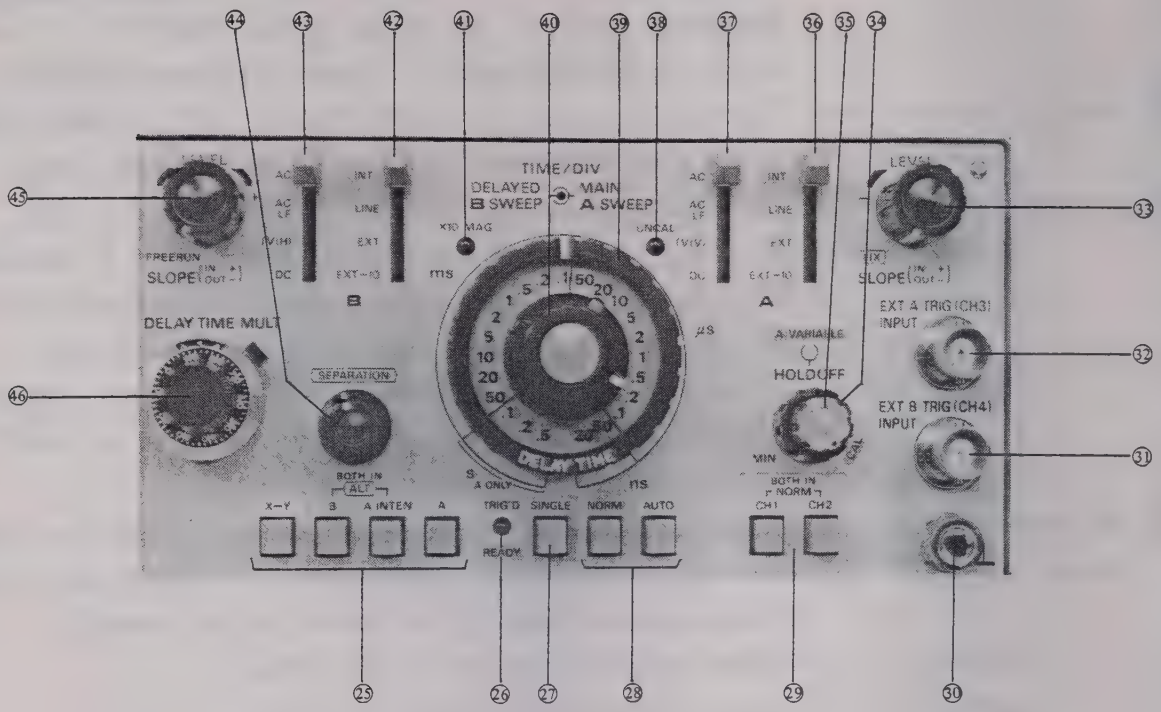


Fig. 4-4 Horizontal Axis

(36) (A) Trigger source : Selects source of A trigger signal.

INT ····· Internal trigger signal obtained from vertical delfection system.

LINE ····· Trigger signal obtained from a sample of the mains power line voltage applied to this instrument.

EXT ····· Trigger signal obtained from an external signal applied to the EXT A TRIG (CH3) INPUT connector (32).

EXT-10 ····· Attenuates external trigger signals 10 times.

(37) (A) Trigger coupling : Determines method of coupling trigger signal to A trigger circuit.

AC ····· Rejects dc and attenuates signals below about 30 Hz.

AC-LF ····· Accepts signals between 30 Hz and 50 kHz.

TV(V) ····· Connects vertical sync signal separated from TV signal to trigger circuit.

DC ····· Accepts all trigger signals and connects them to the trigger circuit.

(38) UNCAL ····· Light indicates that the A VARIABLE control (35) is not in the CAL position.

(39) MAIN A SWEEP ····· TIME/DIV (DELAY TIME)
Selects the sweep time coefficient of the A sweep circuit and selects the basic delay time for delayed sweep operation.

(40) DELAYED B SWEEP ··· TIME/DIV
Selects the sweep time coefficient of the B sweep circuit for delayed sweep operation.

(41) x 10 MAG ····· Light indicates that magnifier (PULL x 10 MAG switch (10)) is on.

(42) (B) Trigger source ····· Selects source of B trigger signal.
Similar to (36) except that external signal is applied to EXT B TRIG (CH4) INPUT connector (31).

(43) (B) Trigger coupling ···· Determines method of coupling trigger signal to B trigger circuit.
Similar to (37) except that horizontal sync signal is connected to trigger circuit in TV(H) position.

(44) SEPARATION ····· Controls vertical position of the B sweep when the sweep display mode switch (25) is set to ALT (alternate horizontal display).
In other sweeps, this control has no effect.

(45) (B) LEVEL ····· SLOPE (IN+ OUT-)
Selects amplitude point on B sweep trigger signal at which sweep is triggered. When depressed or pulled out, has similar function to A sweep LEVEL control (33). B sweep does not start until the trigger circuit receives a trigger signal even when a sweep delay time which has been set by the MAIN A SWEEP switch (39) and the DELAY TIME MULT dial (46) has elapsed.
When turned fully counterclockwise to FREERUN, B sweep starts immediately after the sweep delay time.

(46) DELAY TIME MULT ··· Provides variable sweep delay between 0.3 and 10.0 times the delay time indicated by the MAIN A SWEEP TIME/DIV switch (39).

(2) Rear Panel

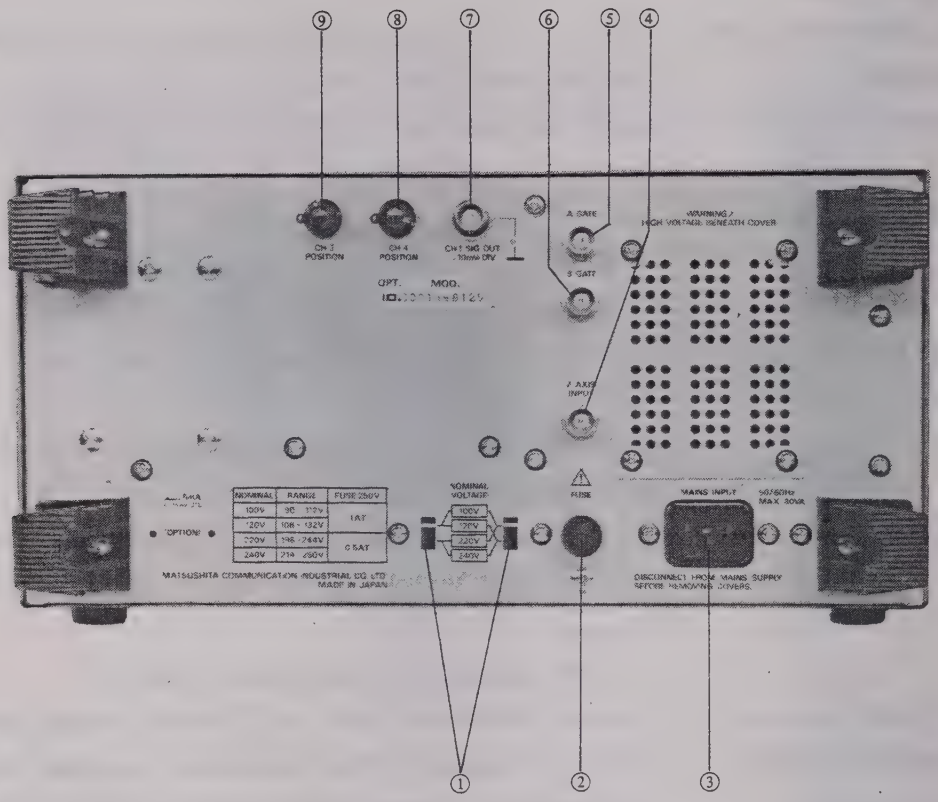


Fig. 4-6 Rear Panel

① NOMINAL VOLTAGE ···· Mains voltage selector.
② FUSE ····· Fuse holder.
③ MAINS INPUT ····· Inlet socket for power cable.
④ Z AXIS INPUT ····· Input connector for intensity modulation of the CRT display.
⑤ A GATE ····· Output connector providing a positive rectangular pulse coincident with A sweep.
⑥ B GATE ····· Output connector providing a positive rectangular pulse coincident with B sweep.
⑦ CH1 SIG OUT ····· Output terminal for the CH1 signal.
⑧ CH4 POSITION ····· Controls vertical position of CH4 trace in quadruple-trace display.
⑨ CH3 POSITION ····· Controls vertical position of CH3 trace in quadruple-trace display.

(3) Bottom

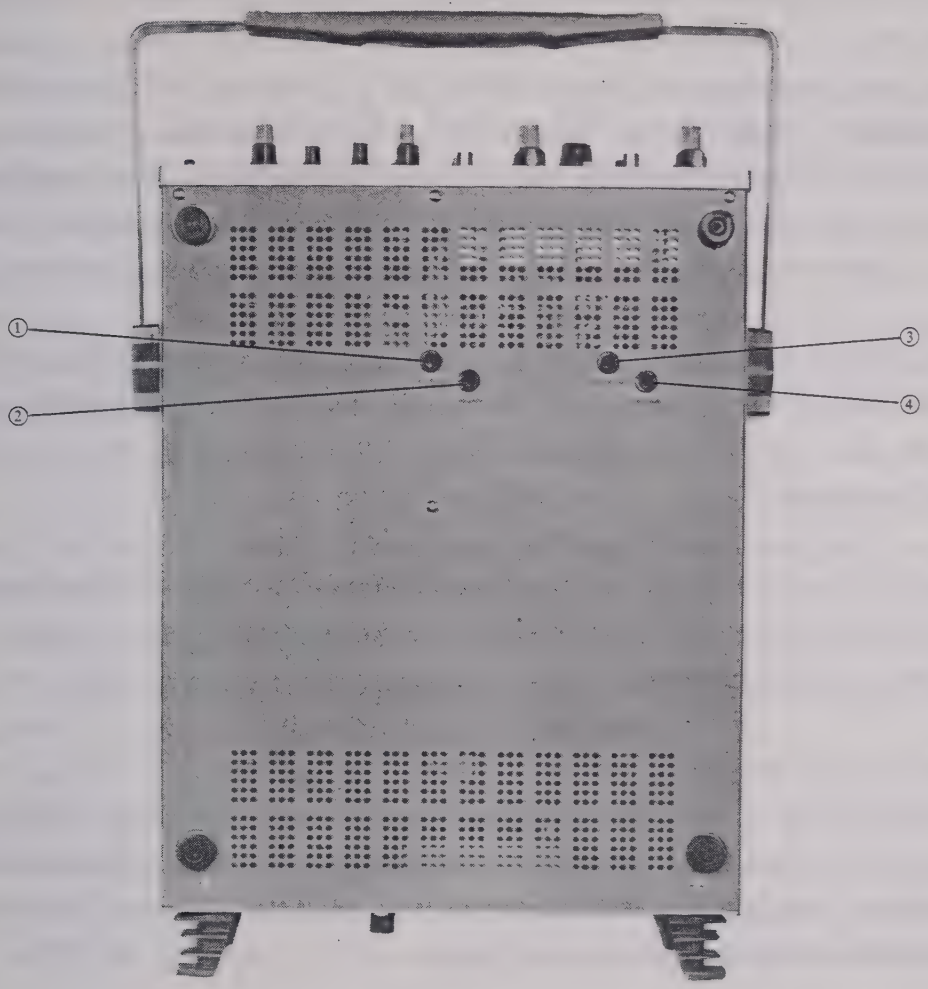


Fig. 4-7 Bottom

① CH1 DC BAL ····· CH1 (or X) amplifier DC balance adjustment. Adjusted to the point where turning CH1 VOLTS/DIV switch ⑭ from 5 mV to 10 mV or 20 mV will not move the trace up and down.

② CH1 GAIN ····· CH1 gain adjustment. Adjusted with CH1 VOLTS/DIV switch ⑭ set to 5 mV.

③ CH2 DC BAL ····· CH2 (or Y) amplifier DC balance adjustment. The adjustment procedure is the same as for CH1 DC BAL except for turning CH2 VOLTS/DIV switch ㉑.

④ CH2 GAIN ····· CH2 gain adjustment. Adjusted with CH2 VOLTS/DIV switch ㉑ set to 5 mV.

4-4 VERTICAL AXIS

(1) MODE switch

Five buttons labeled MODE located between CH1 and CH2 controls on the front panel are used to select vertical mode of operation. The upper four buttons are self-canceling switches to select one mode out of four ; CH1, CH2, CHOP and ALT. An additional mode, ADD, is selected by depressing two buttons (CH1 and CH2) at a time. The lowermost button labeled QUAD is a self-lock switch that enables (depressed state) or desables (released state) the quadruple-trace (four channels including CH3 and CH4) operation. The switch has no effect in single-trace operation (CH1 or CH2 only) and ADD mode of operation.

CH1, CH2 : Either of the input channels can be used for single-trace displays. Apply a signal to the desired INPUT connector and depress the CH1 or CH2 button to display the channel used. Since the polarity inversion feature is provided only in CH2, select CH2 when the feature is required.

ALT : The ALT mode produces a display that alternates between CH1 and CH2 with each sweep of the CRT. Although the ALT mode can be used at all sweep speeds, the CHOP mode provides a more satisfactory display at sweep time coefficients slower than about 0.5 ms/DIV.

Proper internal triggering in the ALT mode can be obtained in any one of the CH1, CH2 or NORM setting of the Internal Trigger Source switch (㉙ in Fig. 4-4). When in the NORM setting (both CH1 and CH2 buttons depressed), the sweep is triggered from the signal on each channel providing a stable display of two unrelated signals. But this does not indicate the time relationship between the signals.

CHOP : The CHOP mode produces a display that is electronically switched (about 500 kHz rate independent of sweeps) between channels. The mode is used at sweep time coefficients slower than about 0.5 ms/DIV or whenever dual-trace, single phenomenon is to be displayed.

Proper internal triggering in the CHOP mode can be obtained only when the Internal Trigger Source switch is set to CH1 or CH2. The NORM setting can not be used.

ADD : The ADD mode is used to display the sum or difference of two signals.

The common-mode rejection ratio of the VP-5512P is greater than 20 : 1 at 20 MHz for signal amplitude up to eight times the VOLTS/DIV switch setting.

The following general precautions should be observed when using the ADD mode.

(a) Do not exceed the input voltage rating of this instrument.

(b) Do not apply signals that exceed an equivalent of about eight times the VOLTS/DIV switch setting.

(c) Use CH1 and CH2 positioning control settings which most nearly position the signal of each channel to mid-screen when viewed in either CH1 or CH2 setting of the MODE switch.

QUAD : The QUAD mode produces a display of four traces that alternates or is chopped among CH1, CH2, CH3 and CH4 depending on the MODE switch setting (ALT or CHOP).

Externally applied signals to EXT A TRIG (CH3) INPUT and EXT B (CH4) INPUT conntectors are displayed together with CH1 and CH2 traces by setting the (A) and (B) Trigger Source switches (㊱ and ㊷ in Fig. 4-4) at each EXT or EXT - 10 position. Since the CH3 and CH4 traces are displayed after passing through the (A) and (B) Trigger Coupling switches (㊲ and ㊸ in Fig. 4-4) respectively, the switches shold be set at DC to use the full bandwidth of DC to 70 MHz.

When the (A) and (B) Trigger Source Switches are set at each INT position, the CH3 trace displays the selected (by ㊲) internal trigger signal for A sweep and the CH4 trace displays the selected (by ㊸) internal trigger signal for B sweep. 5 DIV display by CH1 or CH2 will produce a trigger signal display of 1 DIV (±30 %) for CH3 or CH4. This arrangement is used to monitor the triggring signals with the filtering effect or sync separator operation selected by the Trigger Coupling switches.

(2) **Input signal connections**

The most usual and convenient mean to apply signals to the oscilloscope input connectors is the use of the probes supplied as accessories. Althrough the probe reduces the deflection coefficient by 1/10, it offers a high input impedance that minimizes circuit loading.

Another mean to apply signals to the instrument is the use of coaxial cables. For high-frequency applications, the coaxial cables should be terminated at both ends in their characteristic impedance.

(3) **Input coupling** (AC-GND-DC switches)

The DC coupling is used for most applications. The AC coupling can be used if the DC component of the input signals is much larger than the AC component.

In the AC position, the DC component of the signal is blocked by a capacitor in the input circuit. The low-frequency response falls 3 dB at about 4 Hz in the AC position.

The GND position provides a ground reference at the input of the oscilloscope by holding the input ciucuit at ground potential. The signal applied to the INPUT connector is internally disconnected but not grounded.

(4) **Deflection coefficient**

The deflection coefficient is determined by the attenuation factor of the probe, the setting of the VOLTS/DIV switch and the setting of the VARIABLE control. The calibrated deflection coefficients indicated by the VOLTS/DIV switches apply only when each VARIABLE control is set to the CAL position.

The VARIABLE control provides variable, uncalibrated vertical deflection between the calibrated settings of the VOLTS/DIV switch and it extends the uncalibrated deflection coefficient to about 12.5 V/DIV.

(5) **Bandwidth limiter**

The BANDWIDTH (FULL / 20 MHz) switch provides a method of reducing interference from unwanted high-frequency signals when viewing low-frequency signals. When the switch is released (FULL), the full bandwidth capabilities of the vertical deflection system are available. When it is depressed and locked (20 MHz), the upper -3 dB bandwidth point of the complete vertical deflection system is limited to about 20 MHz. The red LED lights to annunciate the limited bandwidth.

4-5 HORIZONTAL AXIS

(1) **Trigger source** (Lever switches ㊱ and ㊷ in Fig. 4-4)

INT : The trigger signal is obtained from the vertical deflection system. The Internal Trigger Source switch (㉙ in Fig. 4-4) provides further selection of the internal trigger signal as shown below.

Internal Trigger Source switch	Selected trigger source
CH1 : Only CH1 button is depressed :	Trigger signal is derived from the CH1 signal.
CH2 : Only CH2 button is depressed :	Trigger signal is derived from the CH2 signal.
NORM : Both CH1 and CH2 buttons depressed :	Trigger signal is derived from the displayed signal.

For single-trace displays of either channel, the NORM position provides the most convenient operation. However, for dual-trace displays, special considerations must be made to provide the correct display as shown below.

T \ V	CH1	CH2	ALT	CHOP	ADD
CH1	Yes	Yes	Yes	Yes	Yes
CH2	Yes	Yes	Yes	Yes	Yes
NORM	Yes	Yes	Note	No	Yes

V : Vertical axis MODE switch.

T : Internal Trigger Source switch.

Note : Can be used but cannot indicate the time relationship between channels.

LINE : The trigger signal is obtained from the mains power supply. Line triggering is useful when the input signal is time-related to the mains frequency.

EXT : An external signal connected to the EXT A TRIG (CH3) INPUT connector is used to trigger the A sweep in the EXT position of the (A) Trigger Source switch (㊱ in Fig. 4-4). Another external signal can be applied to the EXT B TRIG (CH4) INPUT connector to trigger the B sweep with the (B) Trigger Source switch (㊷ in Fig. 4-4) set at the EXT position.

CH3 and CH4 signals are acquired with the same setting of these switches for quadruple-trace operation as described in 4-4 (1).

EXT - 10 : The external signals applied to the EXT A TRIG (CH3) and EXT B TRIG (CH3) INPUT connectors are attenuated 10 times. Attenuation of high-amplitude external trigger signal is desireable to broaden the range of the Triggering LEVEL control.

The attenuation is also available for quadruple-trace operation.

(2) **Trigger coupling** (Lever switches ㊲ and ㊸ in Fig. 4-4)

AC : DC component of the trigger signal is blocked in this switch position. Signals with low-frequency components below 30 Hz are attenuated. AC coupling can be used for most applications. Since the triggering point in the AC coupling depends on the average voltage level, random trigger signals may cause unstable display. In such cases, use DC coupling.

AC LF : This switch position passes low-frequency signals between about 30 Hz to 50 kHz. When triggering from complex waveforms, this switch position is useful for providing stable display of the low-frequency components.

TV(V), TV(H) : Synchronization for TV video signals will be discribed later in this section.

DC : DC coupling may be used to provide stable triggering with low-frequency signals which would be attenuated in the AC position, or with low-repetition rate signals.

(3) **Trigger slope** (Push-pull switch attached to each LEVEL control)

The SLOPE switch determines whether the trigger circuit responds on the positive-going or negative-going portion of the trigger signal. When the control knob is pushed in for + position, the display starts with the positive-going portion of the waveform; pulled out for - position, the display starts with the negative-going portion of the waveform. When several cycles of a signal appear in the display, the setting of the SLOPE switch is often unimportant. However, if only a certain portion of a cycle is to be displayed, + or - setting of the switch is important to provide a dipsplay which starts on the desired slope of the input signal.

(4) **Triggering level** (LEVEL controls (33) and (45) in Fig. 4-4)

The Triggering LEVEL control determines the voltage level on the triggering waveform at which the sweep is triggered. When the LEVEL control is set in the + region, the trigger circuit responds at a more positive point on the trigger signal. When the control is set in the - region, the trigger curcuit responds at a more negative point on the trigger signal. The FIX position of the (A) LEVEL control provides the automatic level control of A sweep for signals over a certain level.

(5) **HOLDOFF control**

The HOLDOFF control is used to vary holdoff time between sweeps. The control is used to improve the ability to trigger on aperiodic signals as illustrated in Fig. 4-7.

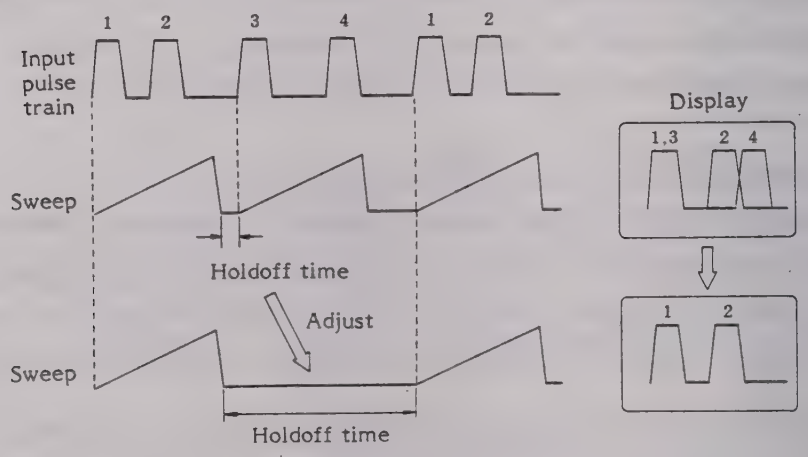


Fig. 4-7 Holdoff time adjustment

Clockwise rotation increases the holdoff time causing the dim trace on CRT screen. In general waveform observations, the control should be kept at the fully counterclockwise position labeled MIN on the front panel.

(6) **A sweep mode and single sweep** (Push-buttons (27) and (28) in Fig. 4-4)

Three buttons, AUTO, NORM and SINGLE are self-canceling swithces. The AUTO and NORM buttons lock in the depressed position, however, the SINGLE button has no locking mechanism and it acts as a momentary switch once depressed and canceled other two buttons. The green LED is used for two ways, one for "A SWEEP TRIGGERED" indicator and another for " SINGLE SWEEP READY" light.

AUTO : The AUTO setting provides a stable display when the (A) LEVEL control is correctly set and a trigger signal is available. The TRIG'D light indicates when the A sweep is triggered.

When the trigger repetition rate is less than 100 Hz, or in the absence of an adequate trigger signal, the A sweep freeruns to produce a reference trace. In general, the AUTO setting is used for most applications.

NORM : Operation in the NORM setting is the same as in the AUTO setting when a trigger signal is applied. However, when a trigger signal is not present, the A sweep remains off and there is no display. The TRIG'D light indicates when the A sweep is triggered.

This mode is used to display signals with repetition rates below 100 Hz.

SINGLE : When the signal to be displayed is not repetitive, or varies in amplitude, shape or time, the single sweep feature is used. The single sweep mode can also be used to photograph a non-repetitive signal.

To use the single sweep mode, first make sure that trigger curcuit will respond to the event to be displayed. Set the A Sweep Mode switch to AUTO or NORM and obtain the best possible display in the normal manner. Then, press the SINGLE button. The READY light will be on indicating that the sweep generator has been reset and is ready to produce a sweep. The next trigger pulse intiates the sweep and a single trace will be presented on the screen. After this sweep is complete, the READY light goes out and the A sweep generator is locked out until reset.

To prepare the curcuit for another single sweep display, press the SINGLE button again.

(7) **Sweep time coefficient** (TIME/DIV switches)

The MAIN A SWEEP and DELAYED B SWEEP (inner knob) TIME/DIV switches select calibrtated sweep time coefficients for the sweep generator. See Fig. 4-8. As shown on the front panel, the TIME/DIV ranges from 0.1 to 0.5 s/DIV can only be used for A sweep.

When making time measurement from the graticule, the area shown in Fig. 4-9 provides the most linear time measurement.

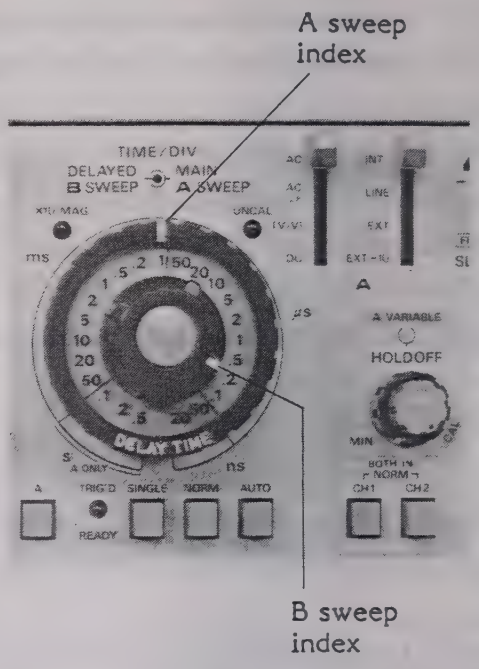


Fig. 4-8 Sweep TIME/DIV

(8) **Sweep magnification** (x 10 MAG)

The sweep magnifier expands the sweep ten times. To use the magnified sweep, first move the portion of the display which is to be expanded, to the center of the graticule. Then pull the PULL x 10 MAG control (concentric with the horizontal positioning control located in the CRT section). The control acts at the same time as a fine control of horizontal positioning and is used to move the magnified portion to the desired position. The x 10 MAG light located above the TIME/DIV switches is on whenever the magnifier is on.

When the magnifier is on, the sweep time coefficient is determined by dividing the TIME/DIV switch setting by 10. Thus, the fastest sweep time coefficient of 2 ns/DIV is obtained.

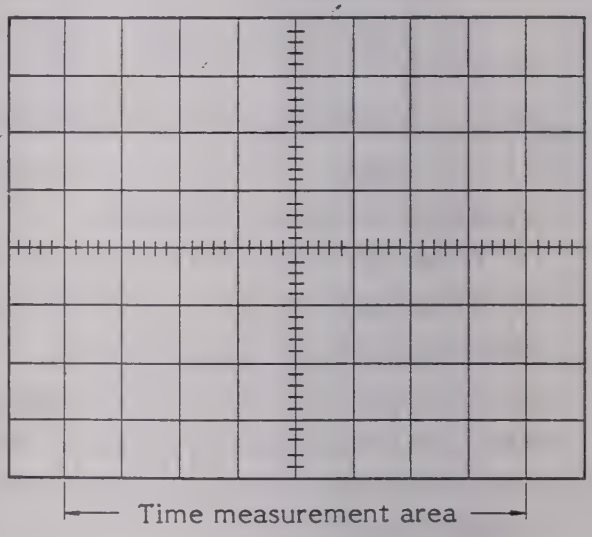


Fig. 4-9 Graticule

(9) **Delayed B sweep**

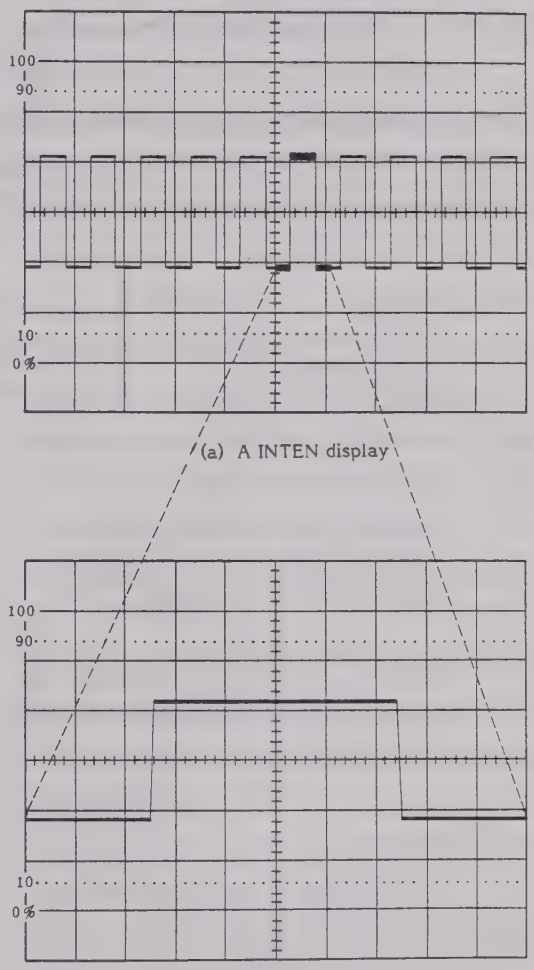
The B sweep (delayed sweep) is operable in the A INTEN and B settings of the Sweep Display Mode switch (four buttons (25) in Fig. 4-4). The A sweep TIME/DIV along with the DELAY TIME MULT dial determines the delay time of the B sweep. Sweep time coefficient of the delayed portion is determined by the DELAYED B SWEEP TIME/DIV switch settings.

Ih the A INTEN setting, the display will appear similar to Fig. 4-10. The amount of delay time between the start of A sweep and the intensified portion is determined by the settings of the MAIN A SWEEP TIME/DIV switch and the DELAY TIME MULT dial. The intensified portion of the display is produced by the B sweep. The length of this portion is about 10 times the setting of the DELAYED B SWEEP TIME/DIV switch.

When the Sweep Display Mode switch is set to B, the intensified portion as viewed in the A INTEN setting is displayed on the screen (see Fig. 4-10 b). The sweep time coefficient is indicated by the DELAYED B SWEEP TIME/DIV switch.

(10) **B sweep triggering level**

The B sweep operates in two modes, " B starts after delay time " and "B triggerable after delay time", depending on the setting of the (B) Trigger LEVEL control ((45) in Fig. 4-4). Fig. 4-11 illustrates the difference between these two modes.



(a) A INTEN display

(b) B (delayed sweep) display

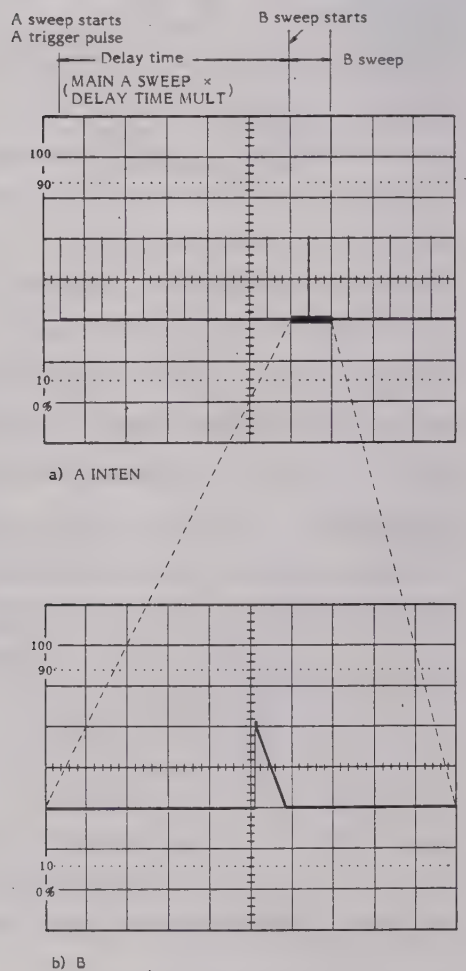
Fig. 4-10 Operation of delayed sweep

(a) B starts after delay time

Turn the (B) LEVEL control fully counterclockwise to its FREERUN position. The B sweep is presented immediately after the delay time (see Fig. 4-11 a,b). The delay time is given by (Setting of the MAIN A SWEEP TIME/DIV switch) x (DELAY TIME MULT dial indication).

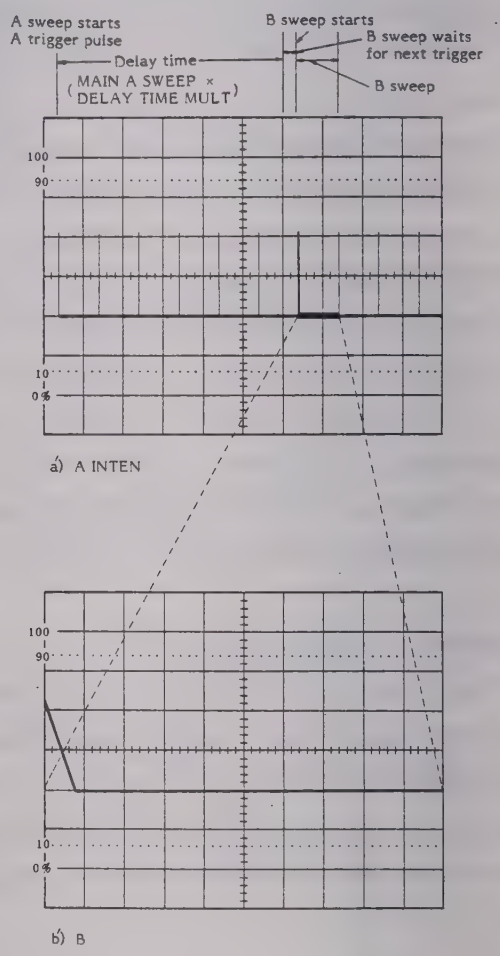
(b) B triggerable after delay time

Turn the (B) LEVEL control for normal triggering operation as described in 4-5 (4). The B sweep operates only when it is triggered after the selected delay time (see Fig. 4-11 a', b'). In the setting of Fig. 4-11 a', the intensified portion appears to jump betweeen trigger signals by rotating the DELAY TIME MULT dial.



B starts after delay time

(B) LEVEL control in FREERUN position



B triggerable after delay time

(B) LEVEL control in normal triggering condition.

Fig. 4-11 B sweep modes

(11) Alternate horizontal displays

The ALT setting of the Sweep Display Mode switch (both A INTEN and B buttons depressed) produces a display that alternates between the A sweep (with an intensified portion) and the B sweep with each sweep of the CRT. The A sweep speed is determined by the setting of the MAIN A SWEEP TIME/DIV switch. The length of the intensified portion on the A sweep (the B sweep time) is determined by the setting of the DELAYED B SWEEP TIME/DIV switch.

The SEPERATION control positions the B sweep trace vertically with respect to the A sweep trace only in this alternate horizontal display mode.

(12) TV signal displays

Television composite video signals or composite sync signals can be stably displayed with horizontal and vertical sync separator circuits within the instrument. The composite signals with normal polarity (picture positive, sync negative) are observed by either internal or external triggering. However, for reversed video signals it is required to use the external triggering feature applying an external composite video or snyc signal with negative sync polarity to the EXT A TRIG (CH3) INPUT connector. The polarity inversion feature of the CH2 is not effective for this purpose since it does not change the polarity of the trigger signal but inverts merely the display on CRT screen.

Set (A) and (B) Trigger Coupling switches ((37) and (43) in Fig. 4-4) at TV(V) and TV(H) positions respectively. By these settings, the (B) Trigger Source switch ((42) in Fig. 4-4) and EXT B TRIG (CH4) INPUT connector become to have no effect and the trigger source selection can be made by only (A) Trigger Source switch ((36) in Fig. 4-4).

A TV field-rate signal is displayed by triggering operation of A sweep. The "FIX" and "AUTO" features are also available. Set the MAIN A SWEEP TIME/DIV switch at 2 ms, and two frames can be observed by rotating the A VARIABLE control. Select faster A sweep speed to observe a portion of vertical sync pulse in detail. To change the field that is displayed, interrupt the triggering by repeatedly setting the AC-GND-DC switch to GND or disconnecting the signal (or external sync signal) from the applied signal input until the other field is displayed.

A TV line-rate signal is displayed by triggering operation of B sweep. Set the DELAYED B SWEEP TIME/DIV switch at 10 us and select the desired line to be displayed so that the line is intensified with the Sweep Display Mode switch set to A INTEN. Then set the switch to B. Select faster B sweep speed to observe a portion of the line in detail. Although a stable, jitter-free display is obtained by setting to "B triggerable after delay time" mode, the observable portion is restricted to the front edge of the horizontal snyc pulse. Use, therefore, the "B starts after delay time" mode for selecting any desired portion to be displayed.

x 10 MAG function may be employed any time. The HOLDOFF control can be used to obtain clearer display avoiding the duplicated waveform caused by the interlaced scanning in conjunction with the adjustment of the A sweep speed.

(13) **X-Y operation**

The X-Y setting of the Sweep Dispay Mode switch provides a mean for applying an external signal to the horizontal amplifier of the oscilloscope.

When the X-Y button is depressed, the horizontal (X-axis) deflection is provided by the signal connected to the CH1 INPUT [X] connector and the vertical (Y-axis) deflection is provided by the signal connected to the CH2 INPUT [Y] connector regardless of the settings of the vertical MODE switch. For X-Y operation, X-axis positioning is made with the horizontal positioning control (⑨ in Fig. 4-2).

SECTION V
PERFORMANCE CHECK

5-1 TEST EQUIPMENT REQUIRED

Table 5-1 Equipment required

Ref. No.	Instrument	Required Characteristics
1	Time-mark Generator	Time marks 10 ns to 0.5 s. Time accuracy : ±0.1 %.
2	Square-wave Generator	Frequency : 1 kHz to 100 kHz. Rise time : 20 ns approx. Amplitude accuracy : ±0.5 %.
3	Fast-rise Square-wave Generator	Rise time : 3 ns or less. Frequency : 400 kHz to 1 MHz.
4	Sine-wave Oscillator	Frequency : 50 kHz to 100 MHz. Amplitude accuracy : ±3 %.
5	20 dB Attenuator Pad	50-ohm. 20 dB (10 : 1). BNC male and female connectors.
6	Feed-through Termination	50-ohm. BNC male and female connectors.

5-2 PRELIMINARY PROCEDURE

(1) Power-on

Turn on the instrument and allow a warm-up period of at least 15 minutes in the following conditions.

(2) Warm-up Conditions

Table 5-2 Warm-up conditions

Item	Control	Position	Item	Control	Position
	INTENSITY A FOCUS SCALE ILLUM	Fully CCW Midrange As desired	A Trigger	LEVEL SLOPE Coupling Source	Midrange + AC INT, CH1
Vertical	VOLTS / DIV VARIABLE (both) Positioning (both) AC-GND-DC (both) MODE QUAD CH2 POLARITY	5 mV CAL Midrange DC CH1 Off (button released) NORM	Sweep	MAIN A SWEEP; TIME/DIV VARIABLE A sweep mode Sweep display mode x 10 MAG Positioning HOLDOFF	1 ms CAL AUTO A OFF Midrange Full CCW
Mains Voltage : Within +2 % of nominal value Ambient Temperature 25° C ± 5° C					

5-3 CHECK TRACE ALIGNMENT

Requirement—Trace parallel to horizontal graticule lines.

(1) Advance the INTENSITY A control until the trace is visible.

(2) Turn the CH1 positioning control to move the trace to the center horizontal line.

(3) Adjust the FOCUS control for a sharply defined display.

(4) CHECK—The trace should be parallel with the center horizontal line.

(5) If necessary, adjust the TRACE ROTATION adjustment on the front panel so the trace is parallel to the horizontal graticule line.

5-4 CHECK GEOMETRY

Requirement—Bowing or tilt of markers at left and right extremes of display within 0.15 DIV or less.

(1) Connect the Time-mark generator to the CH1 INPUT connector with a BNC cable.

(2) Set the Time-mark generator for output marker of 0.1 ms.

(3) Set the CH1 VOLTS/DIV switch so the markers extend beyond the bottom and top of the graticule area.

(4) Set the A trigger LEVEL control for a stable display.

(5) CHECK—Bowing and tilt of markers over entire display area within 0.15 DIV or less (see Fig. 5-1).

(6) Disconnect the Time-mark generator.

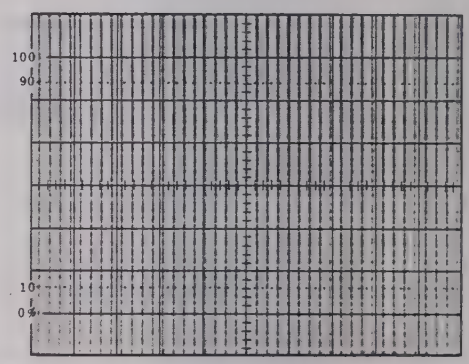


Fig. 5-1 Display for checking geometry

5-5 CHECK CH1 & CH2 DC BALANCE

Requirement—No trace shift as VOLTS/DIV switch is changed to next position between 20 mV to 2 mV.

(1) Position the trace to the center horizontal line with the CH1 positioning control.

(2) Set the CH1 VOLTS/DIV switch at 20 mV.

(3) Set AC-GND-DC switches (CH1 and CH2) at GND.

(4) CHECK—Change the CH1 VOLTS/DIV switch from 20 mV to 2 mV. Trace should not show visible shift vertically at each step.

(5) If there is trace shift by changing from 20 mV to 5 mV, adjust the CH1 DC BAL adjustment on the bottom of the oscilloscope. If trace shifts by changing from 5 mV to 2 mV, the CH1 STEP ATT BAL inside the instrument is to be adjusted as described in the maintenance section of this manual.

(6) Set the MODE switch to CH2.

(7) Position the trace to the center horizontal line with the CH2 positioning control.

(8) CHECK — Change the CH2 VOLTS/DIV switch from 20 mV to 2 mV. Trace should not show visible shift vertically at each step.

(9) If there is trace shift by changing from 20 mV to 5 mV, adjust the CH2 DC BAL adjustment on the bottom. If trace shifts by changing from 5 mV to 2 mV, the CH2 STEP ATT BAL inside the instrument is to be adjusted as described in the maintenance section of this manual.

5-6 CHECK CH1 & CH2 POSITION CENTERING

Requirement — Trace positioned within the display area with the positioning control at its center.

(1) Set the CH1 and CH2 VOLTS/DIV switches to 5 mV.

(2) Position the CH1 and CH2 positioning controls at their center. (The white index on each knob sits at the top.)

(3) CHECK — CH2 trace should be within the display area.

(4) Set the MODE switch to CH1.

(5) CHECK — CH1 trace should be within the display area.

5-7 CHECK CH1 & CH2 GAIN

Requirement — Accurate vertical deflection (within $\pm$2 %) in the 5 mV position of the CH1 and CH2 VOLTS/DIV switches.

(1) Connect the Square-wave generator output connector to the CH1 INPUT and CH2 INPUT connectors through a BNC T adapter and two BNC cables.

(2) Set the Square-wave generator for a 20 mVp-p output of 1 kHz.

(3) Set the AC-GND-DC switches (CH1 and CH2) at DC.

(4) CHECK — CRT display for 4 DIV of deflection.

(5) If necessary, adjust the CH1 GAIN adjustment (on the bottom of the oscilloscope) for exact 4 DIV of deflection.

(6) Set the MODE switch to ADD (both CH1 and CH2 buttons depressed).

(7) Pull the CH2 POLARITY switch for inverted CH2 display. (Algebraic subtraction.)

(8) Center the display with the CH2 positioning control.

(9) CHECK — CRT display for straight line.

(10) If necessary, adjust the CH2 GAIN adjustment (on the bottom) for straight line.

5-8 CHECK ADD MODE OPERATION

Requirement — Correct signal addition.

(1) Set the Square-wave generator for a 10 mVp-p output.

(2) Depress the CH2 POLARITY switch for normal CH2 display. (Algebraic addition.)

(3) CHECK – CRT display 4 DIV in amplitude.

5-9 CHECK CH1 & CH2 DEFLECTION ERROR

Requirement — Vertical deflection coefficient within ±2 % of CH1 and CH2 VOLTS/DIV switch indication.

(1) Set the MODE switch to CH1.

(2) Set the CH2 AC-GND-DC switch at GND.

(3) CHECK — Using the CH1 VOLTS/DIV switch and the Square-wave generator settings given in Table 5-3, check vertical deflection coefficient within ±2 % in each position of the CH1 VOLTS/DIV switch.

Table 5-3 Vertical deflection error

VOLTS/DIV	Square-wave Generator Output	Deflection (DIV)	Error Limit (DIV)
2 mV	10 mV (p-p)	5	±0.1
5 mV	20 mV	4	±0.08
10 mv	50 mV	5	±0.1
20 mv	0.1 V	5	±0.1
50 mV	0.2 V	4	± 0.08
0.1 V	0.5 V	5	±0.1
0.2 V	1 V	5	±0.1
0.5 V	2 V	4	±0.08
1 V	5 V	5	±0.1
2 V	10 V	5	±0.1
5 V	20 V	4	±0.08

(4) Set the MODE switch to CH2.

(5) Set the CH1 AC-GND-DC switch at GND and the CH2 AC-GND-DC swtich at DC.

(6) CHECK — Using the CH2 VOLTS/DIV switch and the Square-wave generator settings given in Table 5-3, check vertical deflection coefficient within ±2 % in each position of the CH2 VOLTS/DIV switch.

5-10 CHECK CH1 & CH2 VARIABLE RANGE

Requirement – Continuously reduces deflection coefficient down to 1/2.5.

(1) Set the Square-wave generator for a 0.1 Vp-p output.

(2) Set the VOLTS/DIV switches (both CH1 and CH2) at 20 mV.

(3) Set the AC-GND-DC switches (both CH1 and CH2) at AC.

(4) CHECK — Turn the CH2 VARIABLE control counterclockwise (CCW). Display should be reduced to 2 DIV or less. CH2 UNCAL light must be on when CH2 VARIABLE control is not in CAL position.

(5) Set the MODE switch to CH1.

(6) CHECK — Turn the CH1 VARIABLE control CCW. Display should be reduced to 2 DIV or less. CH1 UNCAL light must be on when CH1 VARIABLE control is not in CAL position.

5-11 CHECK VERTICAL LINEARITY

Requirement —— 0.15 DIV or less compression or expansion of a 2-DIV signal (at center screen) when positioned to the vertical extremes of the graticule area.

(1) Set the AC-GND-DC switches (both CH1 and CH2) at DC.

(2) Position the display to the center of the graticule with the CH1 positioning control as shown in Fig. 5-2 (b).

(3) Adjust the CH1 VARIABLE control for exact 2 DIV of deflection.

(4) Position the display as illustrated in Fig. 5-2 (a) and (c).

(5) CHECK — Compression or expansion 0.15 DIV or less.

(6) Set the MODE switch to CH2.

(7) Position the display to the center of the graticule with the CH2 VARIABLE control for exact 2 DIV of deflection.

(8) Position the display as illustrated in Fig. 5-2 (a) and (c).

(9) CHECK — Compression or expansion 0.15 DIV or less.

(10) Turn both VARIABLE controls (CH1 and CH2) fully clockwise to CAL position.

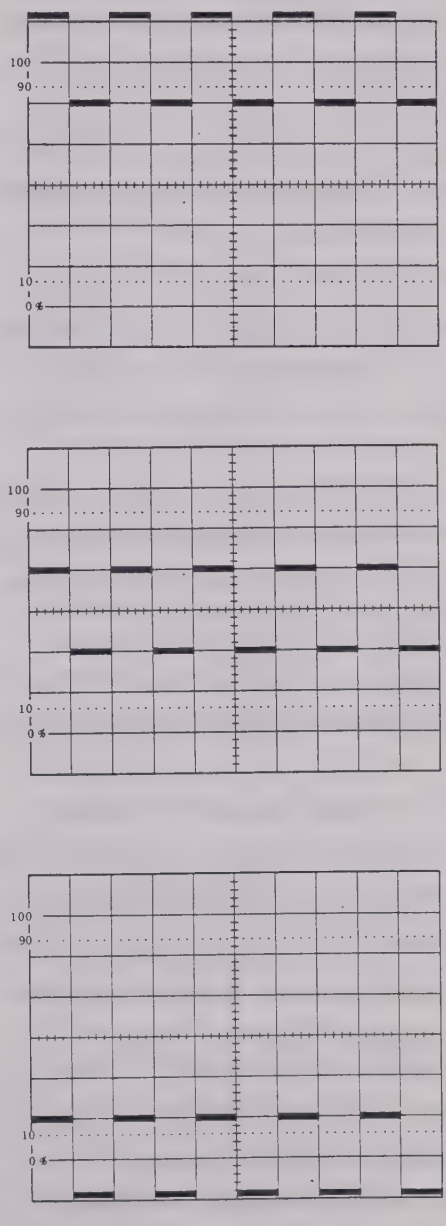


Fig. 5-2 Linearity

5-12 CHECK X GAIN

Requirement — Correct horizontal deflection for X-Y mode operation in the 5 mV position of the CH1 VOLTS/DIV switch. (error limit : ±5 %)

(1) Set the Square-wave generator for a 20 mVp-p output.

(2) Set the CH1 VOLTS/DIV switch at 5 mV.

(3) Set the Sweep Display Mode switch to X-Y.

(4) Set the CH2 AC-GND-DC switch at GND.

(5) CHECK — CRT display for 4 DIV ±0.2 DIV of horizontal deflection.

(6) Set the Sweep Display Mode switch to A and disconnect the Time-mark generator.

5-13 CHECK ALT (DUAL-TRACE) OPERATION

Requirement — Trace alternation at all sweep speeds.

(1) Set the MODE switch to ALT.

(2) Position the traces about 2 DIV apart.

(3) Turn the MAIN A SWEEP TIME/DIV switch throughout its range.

(4) CHECK — Trace alternation between CH1 and CH2 at all sweep speeds. At faster sweeps, alternation will not be apparent ; display will appear as two traces on the screen.

5-14 CHECK CHOP (DUAL-TRACE) OPERATION

Requirement — Chopped repetition rate, 500 kHz ±40 % ; time segment from each channel, 0.6 to 1.4 us ; switching transients blanked out.

(1) Set the MODE switch to CHOP.

(2) Set the MAIN A SWEEP TIME/DIV switch at 0.5 us.

(3) Set the Internal Trigger Source switch to NORM (both CH1 and CH2 buttons depressed).

(4) Position the traces about 4 DIV apart.

(5) Set the (A) LEVEL control for a stable display.

(6) CHECK — Each cycle for duration of 2.4 to 5.6 DIV (500 kHz ±40 %). Length of each segment between 1.2 to 2.8 DIV (0.6 to 1.4 us). CRT display for complete blanking of switching transient between chopped segments.

5-15 CHECK QUAD (4-CH) OPERATION

Requirement — Quadruple-trace chopped or alternation. CH3 and CH4 traces positioned vertically over entire graticule area.

(1) Depress the QUAD button.

(2) CHECK — CRT display 4 channels chopped without switching transient. CH3 and CH4 traces vertically positioned within 8 DIV of entire graticule area using the POSITION controls on the rear panel.

(3) Set the MODE switch to ALT.

(4) Turn the MAIN A SWEEP TIME/DIV switch throughout its range.

(5) CHECK — Trace alternation sequentially among CH1, CH2, CH3 and CH4 at all sweep speeds. At faster sweeps, afternation will not be apparent ; display will appear as four traces on the screen.

(6) Press and release the QUAD button.

5-16 CHECK PROBE COMPENSATION

Requirement — No noticeable overshoot or rolloff in the 5 mV position of the VOLTS/DIV switches.

(1) Set the VOLTS/DIV switches (both CH1 and CH2) at 5 mV.

(2) Set the MODE switch to CH1.

(3) Set the MAIN A SWEEP TIME/DIV switch at 0.2ms.

(4) Connect a probe to the CH1 INPUT connector. Touch the probe tip to the output connector of the Square-wave generator set for a 0.2 Vp-p output.

(5) CHECK — CRT display for optimum square corner and flat top as illustrated in Fig. 5-3 (b).

(6) If necessary, adjust the trimmer capacitor in the probe connector so the correct compensation is obtained (see Fig. 5-3).

(7) Set the MODE switch to CH2.

(8) Set the CH2 AC-GND-DC switch to DC.

(9) Proceed similarly on CH2 probe following the steps (4), (5) and (6) above.

(10) Disconnect the probes.

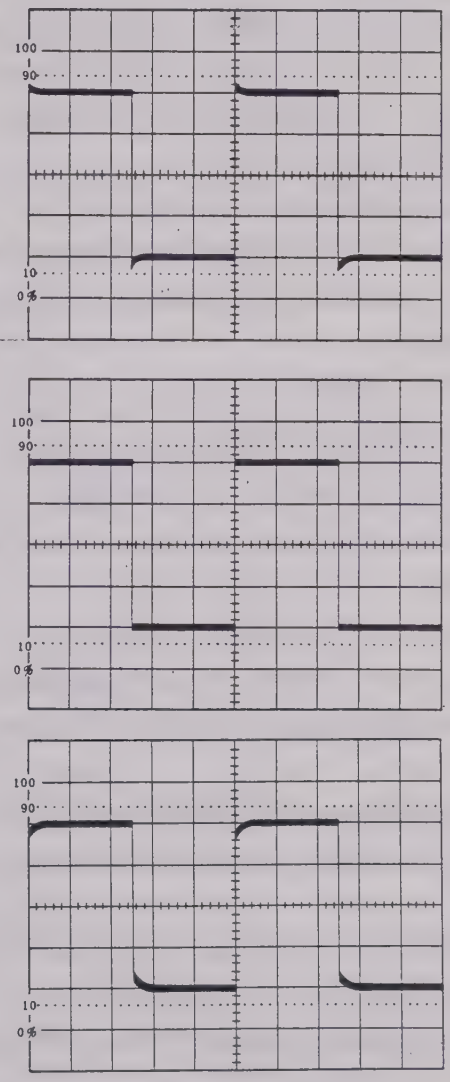


Fig. 5-3 Probe compensation

5-17 CHECK CH1 & CH1 HIGH-FREQUENCY COMPENSATION

Requirement — Optimum square corner for fast-rise square-wave input signal in the 5 mV position of the VOLTS/DIV switches.

(1) Connect the Fast-rise Square-wave generator to the CH2 INPUT connector through a BNC cable and the 20 dB attenuator pad and 50-ohm feed-through termination.

(2) Set the generator for a 400 kHz output. Adjust the output amplitude to provide 6 DIV on the CRT screen.

(3) Set the MAIN A SWEEP TIME/DIV switch to 20 ns and pull the PULL x 10 MAG control.

(4) Adjust the (A) LEVEL control for a stable display.

(5) CHECK — CRT display for a flat top and square corner as shown in Fig. 5-4.

(6) Set the MODE switch to CH1.

(7) Disconnect the 50-ohm termination from the CH2 INPUT connector and connect it to the CH1 input connctor.

(8) CHECK — Same as in CH2.

(9) Disconnect the generator.

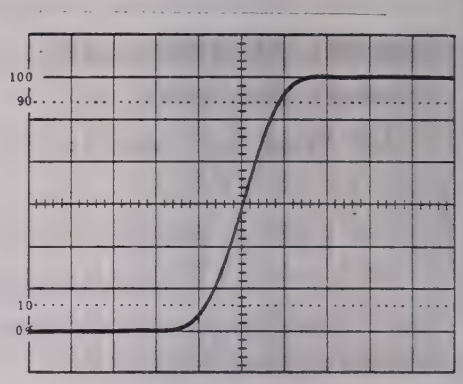


Fig. 5-4 Display showing correct compensation

5-18 CHECK CH1 & CH2 BANDWIDTH

Requirement — 5 mV and 10 mV; not more than -3 dB at 100 MHz : 2 mV; not more than -3 dB at 70 MHz.

(1) Connect the Sine-wave oscillator to the CH1 INPUT connector through the 20 dB Attenuator pad and 50-ohm feed-through termination.

(2) Depress the PULL x 10 MAG control and set the MAIN A SWEEP TIME/DIV switch at 20 us.

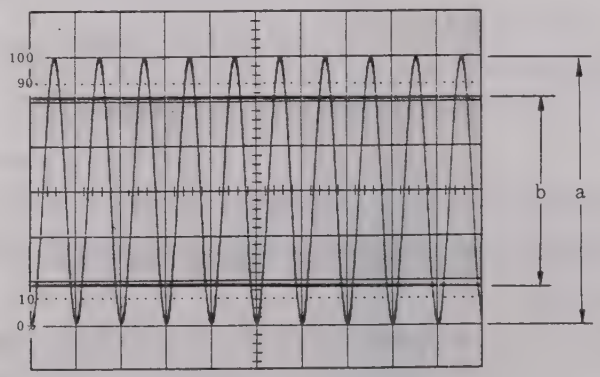
(3) Set the oscillator for 6 DIV display at 50 kHz.

(4) Without changing the output amplitude, increase the output frequency of the oscillator to 100 MHz.

(5) CKECK — The deflection must be 4.2 DIV or more (see Fig. 5-5).

(6) Set the CH1 VOLTS/DIV switch to 10 mV.

(7) Repeat procedure steps (3) through (5) above.



a. 50 kHz.
6 DIV

b. Not more than
-3 dB
(4.2 DIV or more)

Fig. 5-5 Frequency response

(8) Set the CH1 VOLTS/DIV switch to 2 mV.

(9) Set the oscillator for 6 DIV display at 50 kHz.

(10) Without changing the output amplitude, increase the output frequency to 70 MHz.

(11) CHECK – The deflection must be 4.2 DIV or more.

(12) Set the MODE switch to CH2 and disconnect the 50-ohm termination from the CH1 INPUT connecor and connect it to the CH2 INPUT connector.

(13) Proceed similarly the procedure steps (3) to (11) above for CH2.

5-19 CHECK ADD MODE BANDWIDTH

Requirement – 5 mV and 10 mV ; not more than -3 dB at 100 MHz : 2 mV ; not more than -3 dB at 70 MHz.

(1) Set the MODE switch to ADD.

(2) Set the CH2 VOLTS/DIV switch to 5 mV.

(3) Set the CH1 AC-GND-DC switch at GND.

(4) Set the oscillator for 6 DIV display at 50 kHz.

(5) Without changing the output amplitude, increase the output frequency to 100 MHz.

(6) CHECK – The deflection must be 4.2 DIV or more.

(7) Set the CH2 VOLTS/DIV switch to 10 mV.

(8) Repeat procedure step (4) through (6) above.

(9) Set the CH2 VOLTS/DIV switch to 2 mV

(10) Set the oscillator for 6 DIV display at 50 kHz.

(11) Without changing the output amplitude, increase the output frequency to 70 MHz.

(12) CHECK – The deflection must be 4.2 DIV or more.

(13) Disconnect the 50-ohm termination from the CH2 INPUT connector and connect it to the CH1 INPUT connector.

5-20 CHECK X-AXIS BANDWIDTH IN X-Y MODE

Requirement – Not more than -3 dB at 1 MHz.

(1) Set the CH1 VOLTS/DIV switch at 5 mV.

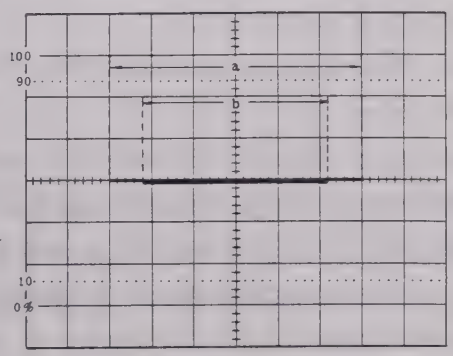
(2) Set both CH1 and CH2 AC-GND-DC switches at DC.

(3) Set the Sweep Display Mode switch to X-Y.

(4) Set the oscillator for 6 DIV X-axis display at 50 kHz.

(5) Without changing the output amplitude, increase the output frequency to 1 MHz.

(6) CHECK — The deflection must be 4.2 DIV or more (see Fig. 5-6).



a. 50 kHz.
6 DIV

b. Not more than
-3 dB
(4.2 DIV or more)

Fig. 5-6 X-axis bandwidth

5-21 CHECK X-Y PHASING

Requirement — ±3 or less phase shift up to 1 MHz.

(1) Connect the oscillator output to the CH1 [X] INPUT and CH2 [Y] INPUT connectors through a BNC T adapter and two BNC cables.

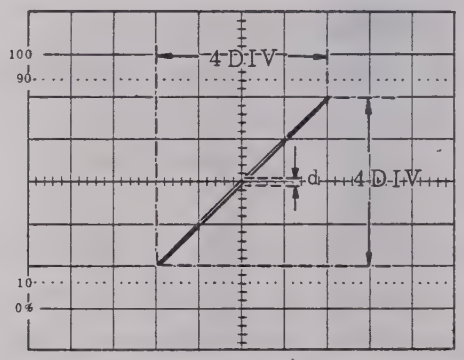
(2) Set the CH2 VOLTS/DIV switch at 5 mV.

(3) Set the oscillator for 4 DIV X-and Y-axis display at 1 MHz.

(4) Center the display vertically and horizontally with the CH2 and horizontal positioning controls.

(5) CHECK — CRT display for an opening at the center vertical line of 0.2 DIV or less (3 or less phase shift, see Fig. 5-7).

(6) Disconnect the oscillator.



d: 0.2 DIV or less
(3° or less)

Fig. 5-7 X-Y phasing

5-22 A AND B INTERNAL TRIGGERING THRESHOLDS

Requirements — 0.3 DIV delfection ; Stable display up to 10 MHz : 2 DIV deflection ; stable display up to 100 MHz with the Trigger Coupling switches in AC or DC position.

(1) Set the Sweep Display Mode switch to A.

(2) Set the MODE switch to CH1.

(3) Connect the oscillator output to the CH1 INPUT connector through the 50-ohm feed-through termination.

(4) Set the Trigger Source switches (both A and B) at INT.

(5) Set the Internal Trigger Source switch to CH1.

(6) Set the MAIN A SWEEP and DELAYED B SWEEP TIME/DIV switches at 20 ns.

(7) Set the A SWEEP MODE switch to AUTO.

(8) Set the oscillator for 0.3 DIV display at 10 MHz.

(9) CHECK — Stable CRT dipslay can be obtained with the (A) LEVEL control at either AC or DC position of the (A) Trigger Coupling switch.

(10) Set the olscillator for 2 DIV display at 100 MHz.

(11)CHECK – Same as step (9) above.

(12) Change the A SWEEP MODE switch to AUTO.

(13) Change the Sweep Display Mode switch to B

(14) Set the oscillator for 0.3 DIV display at 10 MHz.

(15) CHECK — Stable CRT display can be obtained with the (B) LEVEL control at either AC or DC position of the (B) Trigger Coupling switch.

(16) Set the oscillator for 2 DIV display at 100 MHz.

(17) CHECK – Same as step (15) above.

(18) Disconnect the oscillator.

5-23 A AND B EXTERNAL TRIGGERING THERSHOLDS

Requirements – 100 mV input ; stable display up to 10 MHz. : 500 mV input ; stable display up to 100 MHz with the Trigger Coupling switches in AC or DC position.

(1) Conect the oscillator output to the CH2 INPUT coonnector through a BNC cable and a BNC T adapter. Connect the output of the BNC T adapter to the EXT B TRIG (CH4) INPUT connector through the shortest BNC cable and a 50-ohm feed-through termination.

(2) Set the MODE switch to CH2.

(3) Set the CH2 VOLTS/DIV switch at 0.1 V.

(4) Set the Internal Trigger Source switch to CH2.

(5) Set the oscillator for 1 DIV display at 10 MHz.

(6) Set the (B) Trigger Source switch to EXT.

(7) CHECK— Stable CRT display can be obtained with the (B) LEVEL control at either AC or DC position of the (B) Trigger Coupling switch.

(8) Set the oscillator for 5 DIV display at 100 MHz.

(9) CHECK – Same as step (7) above.

(10) Disconnect the 50-ohm feed-through termination from the EXT B TRIG (CH4) INPUT connector and connect it to the EXT A TRIG (CH3) INPUT connector.

(11) Set the Sweep Display Mode switch to A.

(12) Set the A Sweep Mode switch to AUTO.

(13) Set the oscillator for 1 DIV display at 10 MHz.

(14) Set the (A) Trigger Source switch to EXT.

(15) CHECK — Stable CRT display can be obtained with the (A) LEVEL control at either AC or DC position of the (A) Trigger Coupling switch.

(16) Set the oscillator for 5 DIV display at 100 MHz.

(17) CHECK – Same as step (15) above.

5-24 A AND B AC LF OPERATION

Requirements – Stable triggering with 0.4 DIV display at 50 kHz ; does not trigger at 1MHz

(1) Set the CH2 VOLTS/DIV switch at 5 mV.

(2) Set the Trigger Source switches (A and B) at INT.

(3) Set the Trigger Coupling switches (A and B) at AC LF.

(4) Set the MAIN A SWEEP and DELAYED B SWEEP TIME/DIV swithces at 5 us.

(5) Set the oscillator for 0.4 DIV display at 50 kHz.

(6) CHECK – Stable CRT display can be obtained with the (A) LEVEL control.

(7) Without changing the output amplitude, increase the oscillator output frequency to 1 MHz

(8) Pull the PULL x 10 MAG control.

(9) CHECK — Stable CRT display cannot be obtained at any setting of the (A) LEVEL control.

(10) Set the Sweep Display Mode switch to B.

(11) Set the A Sweep Mode switch to AUTO.

(12) Depress the PULL x 10 MAG control.

(13) Set the oscillator for 0.4 DIV display at 50 kHz.

(14) CHECK – Stable CRT display can be obtained with the (B) LEVEL control.

(15) Without chaning the output amplitude, increase the oscillator output frequency to 1MHz.

(16) Pull the PULL x 10 MAG control.

(17) CHECK — Stable CRT display cannot be obtained at any setting of the (B) LEVEL control.

(18) Depress the PULL x 10 MAG control.

(19) Set the Trigger Coupling switches (A and B) at AC.

(20) Turn the (B) LEVEL control fully counterclockwise to FREERUN position.

5-25 CHECK SINGLE SWEEP OPERATION

Requirements — Sweep triggers at same (A) LEVEL control setting as in AUTO ; after each sweep, further displays are locked out until the SINGLE button is pressed.

(1) Set the Sweep Display Mode switch to A.

(2) Set the MAIN A SWEEP TIME/DIV at 20 us.

(3) Set the oscillator for 0.3 DIV display at 50 kHz.

(4) Adjust (A) LEVEL for stable display.

(5) Disconnect the input signal from the CH2 INPUT connector.

(6) Press the SINGLE button.

(7) CHECK – RESET light must come on.

(8) Reconnect the input signal to the CH2 INPUT connector.

(9) CHECK —A single sweep display (one sweep only) is presented. RESET light must go off at the end of the sweep and remain off until the SINGLE button is pressed again.

(10) Set the A Sweep Mode switch to AUTO.

(11) Disconnect all test equipment.

5-26 CHECK A & B SWEEP TIMING ERROR

Requirements — 20 ns and 0.5 s settings ; within ±3 % : all other settings ; within ±2 % over middle 8 DIV of the display.

(1) CHECK — Using the MAIN A SWEEP TIME/DIV switch and the Time-mark generator settings given in Table 5-3, check A sweep timing within ±0.24 DIV (±3 % for 20 ns and 0.5 s) and within ±0.16 DIV (±2 % for other settings) over middle 8 DIV of the display.

(2) CHECK — Using the DELAYED B SWEEP TIME/DIV switch and the Time-mark generator settings given in Table 5-3, check B sweep timing within ±0.24 DIV (±3 % for 20 ns) and within ±0.16 DIV (±2 % for other settings) over middle 8 DIV of the display.

Table 5-3 A and B timing check

MAIN A SWEEP and DELAYED B SWEEP TIME/DIV Setting	Time-mark Generator Output	CRT Display (markers/DIV)
20 ns	20 ns	1 / DIV
50 ns	50 ns	1 / DIV
1 us	0.1 us	1 / DIV
2 us	0.2 us	1 / DIV
5 us	0.5 us	1 / DIV
1 us	1 us	1 / DIV
2 us	2 us	1 / DIV
5 us	5 us	1 / DIV
10 us	10 us	1 / DIV
20 us	20 us	1 / DIV
50 us	50 us	1 / DIV
1 ms	0.1 ms	1 / DIV
2 ms	0.2 ms	1 / DIV
5 ms	0.5 ms	1 / DIV
1 ms	1 ms	1 / DIV
2 ms	2 ms	1 / DIV
5 ms	5 ms	1 / DIV
10 ms	10 ms	1 / DIV
20 ms	20 ms	1 / DIV
50 ms	50 ms	1 / DIV
A sweep only		
1 s	100 ms	1 / DIV
2 s	100 ms	2 / DIV
5 s	500 ms	1 / DIV

5-27 CHECK A MAGNIFIED SWEEP OPERATION

Requirement — Sweep timing within ±3 % over middle 8 DIV of the CRT display in magnified sweep of 0.1 ms/DIV.

(1) Set the Time-mark generator for output marker of 0.1 ms.

(2) Set the MAIN A SWEEP TIME/DIV switch at 1 ms.

(3) Pull the PULL x 10 MAG control.

(4) CHECK — A magnified sweep timing within ±0.24 DIV (±3 %) over middle 8 DIV of the display.

Requirement — Sweep linearity within ±2 % in the middle 8 DIV of the CRT display in magnified sweep of 0.1 mV/DIV.

(5) Position the second and the nineth markers exactly on the vertical graticule lines using the horizontal positioning and A VARIABLE controls.

(6) CHECK — Deviation of each marker within middle 8 DIV from each vertical graticule line must be ±0.16 DIV (±2 %) or less.

Requirement — Horizontal displacement less than 0.2 DIV between magnified and unmagnified sweeps.

(7) Set the Time-mark generator for 0.5 ns markers.

(8) Position a marker exactly on the center vertical graticule line.

(9) Depress the PULL x 10 MAG control.

(10) CHECK — Trace shift less than 0.2 DIV.

(11) Turn the A VARIABLE control fully clockwise to CAL position.

5-28 CHECK A VARIABLE RANGE

Requirement — Continuously reduces A sweep time coefficient down to 1/2.5.

(1) Set the Time-mark generator for 10 ms markers.

(2) Position two markers to the left and right vertical graticule lines with the horizontal positioning control.

(3) Turn the A VARIABLE control fully counterclockwise.

(4) CHECK —CRT display for 4 DIV maximum spacing between markers (see Fig. 5-8).

The A sweep UNCAL light must be on when the A VARIABLE control is not in CAL position.

(5) Disconnect the Time-mark generator.

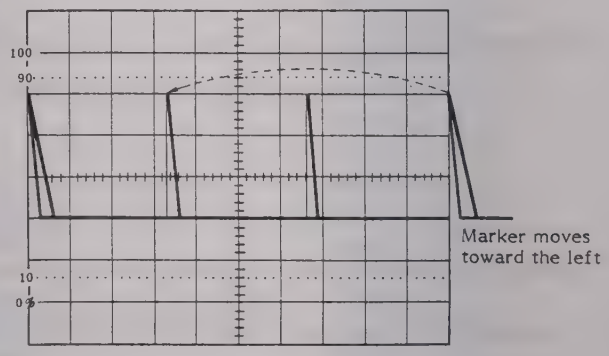


Fig. 5-8 A VARIABLE control

5-29 CHECK HIGH SPEED SWEEP LINEARITY

Requirement — Sweep linearity within ±3 % in the middle 8 DIV of the CRT display in magnified sweep of 5 ns/DIV excluding first and last 10 DIV (50 ns) of total magnified sweep length.

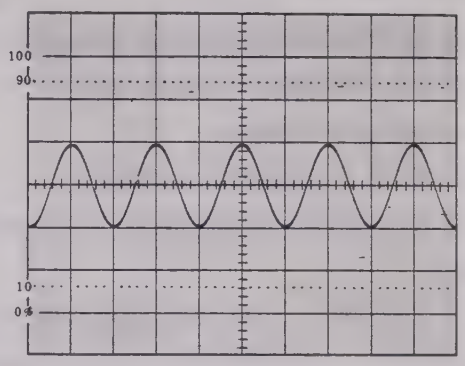


Fig. 5-9 High sweep speed linearity

(1) Connect the Sine-wave oscillator to the CH2 INPUT connector.

(2) Set the oscillator for about 2 DIV display at 100 MHz.

(3) Set the MAIN A SWEEP TIME/DIV switch at 50 ns.

(4) Set the (A) LEVEL control for stable display.

(5) Pull the PULL x 10 MAG control.

(6) Position the first and the fifth positive peaks of the waveform on the vertical graticule lines as shown in Fig. 5-9.

(7) CHECK — Deviation of each peak of the waveform within middle 8 DIV from each vertical graticule line must be ±0.24 DIV (±3 %) or less. Take into account to exclude the first and last 10 DIV of total magnified sweep length.

(8) Depress the x 10 MAG control and disconnect the oscillator.

5-30 CHECK DELAY TIME MULT DIAL LINEARITY

Requirement – Within ±0.3 %.

(1) Connect the Time-mark generator to the CH2 INPUT connector.

(2) Set the generator for 1 ms markers.

(3) Set the A Sweep Mode switch to AUTO.

(4) Set the MAIN A SWEEP TIME/DIV switch at 0.5 ms and DELAYED B SWEEP TIME/DIV switch at 10 us.

(5) Set the A VARIABLE control for one marker each division between the first-and nineth-division vertical graticule lines.

(6) Set the Sweep Display Mode switch to B.

(7) Set the DELAY TIME MULT dial to 1.00 and rotate slightly until a marker is displayed at the start of the sweep. Note the dial reading.

(8) Set the DELAY TIME MULT dial exactly 8.00 dial divisions higher than the reading in step (7) above.

(9) Turn the A VIRIABLE control slightly so a marker is displayed at the start of the sweep.

(10) Set the Sweep Display Mode switch to A INTEN and check for nine markers between the DELAY TIME MULT dial positions of 1.00 and 9.00.

(11) Return the Sweep Display Mode switch to B and repeat steps (7) through (10) until the difference between the markers at about 1.00 and 9.00 is exactly 8.00 dial divisions.

(12) Set the Sweep Display Mode switch to B.

(13) Set the DELAY TIME MULT dial to 9.00 and rotate slightly so a marker is displayed at the start of the sweep.

(14) Note the exact dial reading.

(15) Set the dial to 8.00 and rotate slightly so a marker is displayed at the start of the sweep.

(16) CHECK — Dial reading should be 8.00 ± three minor dial divisions (±0.3 %). Take into account the basic dial error at 9.00 noted in step (14).

(17) Repeat check at each major dial division between 8.00 and 1.00.

5-31 CHECK DELAY TIME JITTER

Requirement — 1 / 20,000 or less.

(1) Set the DELAY TIME MULT dial to 1.00.

(2) Set the MAIN A SWEEP TIME/DIV switch at 1 ms and DELAYED B SWEEP TIME/DIV switch at 1 us.

(3) Set the A VARIABLE control in CAL position.

(4) Position the marker pulse near the center of the display area with the DELAY TIME MULT dial.

(5) CHECK — Jitter on the leading edge of the pulse should not exceed 0.5 DIV (1/20,000). See Fig. 5-10. Disregard slow drift. Turn the dial to about 9.00 and check the jitter in the same manner.

(6) Disconnect the Time-mark generator.

Jitter on leading edge of B sweep display

d: 0.2 DIV or less (3° or less)

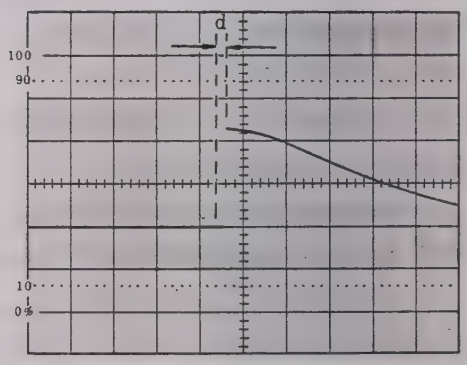


Fig. 5-10 Delay time jitter

5-32 CHECK PUSH FINDER OPERATION

Requirement —Display remains within graticule area when the PUSH FINDER switch (SCALE ILLUM control knob) is pressed regardless of positioning control settings.

(1) Set the Sweep Display mode switch to A.

(2) Display a trace on CRT screen.

(3) Turn the vertical and horizontal positioning controls fully counterclockwise.

(4) CHECK — CRT display can be seen when the PUSH FINDER knob is pressed. Turn the positioning controls fully clockwise and check the effect in the same manner.

5-33 CHECK CALIBRATOR OPERATION

Requirements — Repetition rate ; 1 kHz ±10 % : rise time ; 10 us or less.

(1) Connect a probe to the CH2 INPUT connector. Touch the probe tip to the CAL 0.3 V terminal on the front panel.

(2) Set the CH2 VOLTS/DIV switch at 5 mV.

(3) Set the MAIN A SWEEP TIME/DIV switch at 0.5 ms.

(4) Using the graticule lines and horizontal positioning control, measure the repetition period of the calibrator waveform.

(5) CHECK — The repetition period must be within ±10 % of 1 ms.

(6) Set the (A) SLOPE switch to +.

(7) Set the MAIN A SWEEP TIME/DIV switch at 50 us.

(8) Pull the PULL x 10 MAG control and position the trace horizontally until obtaining the waveform as shown in Fig. 5-11.

(9) Measure the rise time with the 10 % and 90 % lines on the gragicule.

(10) CHECK — The rise time must be 10 us or less.

(11) Disconnect the probe.

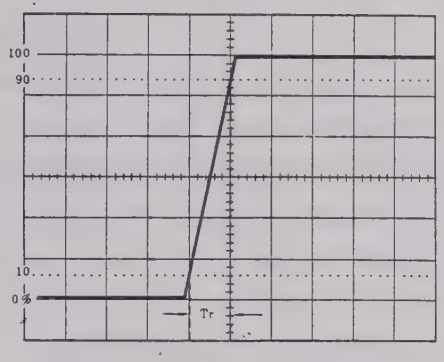


Fig. 5-11 Calibrator rise time

5-34 CHECK Z-AXIS OPERATION

Requirement — Noticeable trace modulation with 5 V signal.

(1) Connect the Sine-wave generator to the EXT A TRIG (CH3) INPUT connector through a BNC cable, 50-ohm feed-through termination and BNC T adapter. Connect the output of the BNC T adapter to the Z AXIS INPUT connector on the rear panel with a BNC cable.

(2) Set the oscillator for a 5 Vp-p output at 50 kHz.

(3) Set the (A) Trigger Source switch at EXT.

(4) Set the MAIN A SWEEP TIME/DIV switch at 20 us.

(5) Set the INTENSITY control to a normal setting.

(6) CHECK — CRT display for noticeable intensity modulation. Adjust the INTENSITY control for clear display.

(7) Disconnect all test equipment.

SECTION VI
MAINTENANCE

6-1 GENERAL

This section of the manual contains information for performing routine adjustment, lamp replacement and preventive maintenance.

Some of the procedures described below require the servicing with instrument covers removed. Therefore, the following precautions should be observed for safety.

WARNING

1. Dangerous voltages exist at several points in this instrument. Internal servicing must be made by qualified maintenance personnel.
2. Disconnect the power cable from mains supply before removing covers.
3. When servicing with power on, particular attention should be paid to aviod personal injury. After removing the covers with the power cable disconnected, mount the instrument on the bench securely so the portion to be serviced is easily accessible. Then connect the power cable and turn on the instrument. Do not touch exposed connection or components while power is on.
4. Do not service alone — Do not perform internal service unless another person capable of rendering first aid and resuscitation is present.

6-2 REMOVAL OF COVERS

(1) Disconnect the power cable from the instrument.

(2) Remove eight screws from the top cover and pull up the cover off the instrument.

(3) Remove five screws from the bottom and remove the bottom cover.

6-3 CH1 & CH2 STEP ATT BAL ADJUSTMENT

This adjustment is to be performed when the instrument failed the Performance check in 5-5 (4) and (8).

(1) The adjustments are accessible from the bottom side of the instrument with the bottom cover removed (see Fig. 6-1).

(2) Allow a warm-up period of at least 15 minutes prior to this adjustment.

(3) Set the instrument in the same manner as described in 5-5.

(4) Observe the CH1 trace and set the CH1 VOLTS/DIV switch at 5 mV.

(5) Position the trace at the center horizontal line.

(6) Change the CH1 VOLTS/DIV switch to 2 mV.

(7) Turn the trim pot R131 (CH1 STEP ATT BAL) to move the trace to the center horizontal line.

(8) Repeat steps (4) through (7) until no trace shift is visible as the VOLTS/DIV switch is changed between 5 mV and 2 mV.

(9) Set the MODE switch to CH2.

(10) Observe the CH2 trace and set the CH2 VOLTS/DIV switch at 5 mV.

(11) Position the trace at the center horizontal line.

(12) Change the CH2 VOLTS/DIV switch to 2 mV.

(13) Turn the trim pot R231 (CH2 STEP ATT BAL) to move the trace to the center horizontal line.

(14) Repeat steps (10) through (13) until no trace shift is visible as the VOLTS/DIV switch is changed between 5 mV and 2 mV.

6-4 CH1 & CH2 VARIABLE ATT BAL ADJUSTMENT

This adjustment is to be performed when the trace shifts vertically as the VARIABLE control is rotated after warm-up period of 15 minutes.

(1) Set the CH1 and CH2 AC-GND-DC switches at GND.

(2) Set the CH1 and CH2 VOLTS/DIV switches at 5 mV.

(3) Set the MODE switch to CH1.

(4) Adjust the trim pot R153 (CH1 VAR BAL) so the trace does not shift as the CH1 VARIABLE control is rotated over entire range.

(5) Set the MODE switch to CH2.

(6) Adjust the trim pot R253 (CH2 VAR BAL) so the trace does not shift as the CH2 VARIABLE control is rotated over entire range.

6-5 SCALE ILLUM LAMP REPLACEMENT

Three lamps are located on the upper edge of the CRT screen for scale illumination. The lamp supplied with the instrument as an accessory can be used to replace one of them.

(1) Disconnect the power cable from the instrument.

(2) Remove the top cover of the instrument.

(3) Remove a screw that retains the lamp housing located between front panel and CRT shield.

(4) Pull the lamp housing slightly backward and the lamp can be replaced.

(5) Reinstall the housing and secure it with the screw removed in step (3).

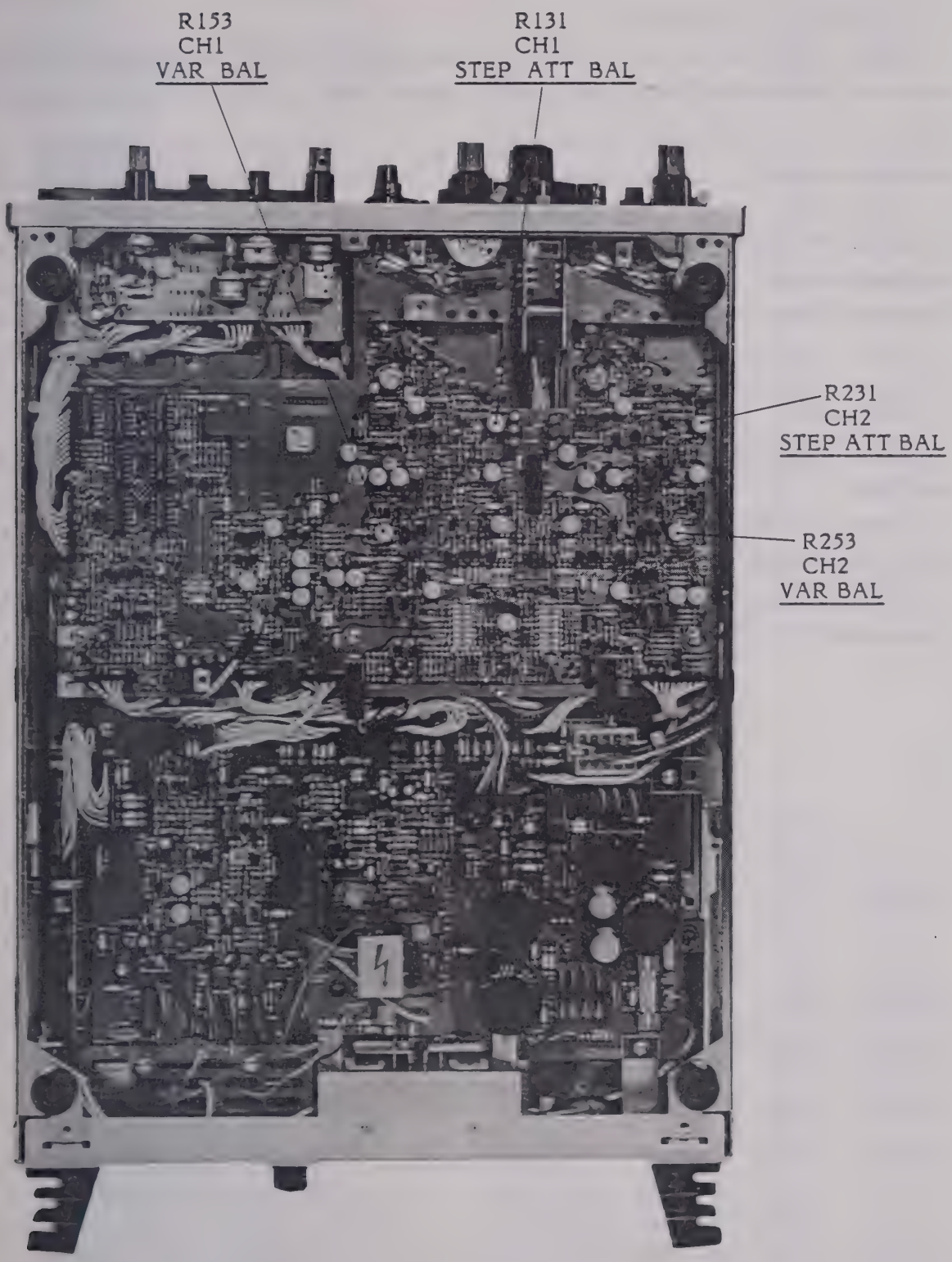


Fig. 6-1 Location of balance adjustments

6-6 CLEANING

(1) Outside of the instrument

Dust on the outside of the instrument can be removed with a soft cloth. Dirt that remains can be removed with a soft cloth dampened with a solution of mild detergent and water.

CAUTION

Avoid the use of chemical agents which contain benzene, toluene, xylene, aceton or similar solvents.

(2) CRT screen

Remove four screws around the bezel of the CRT and remove the bezel with the tinted light filter.

Clean the CRT face with a soft cloth dampened with either denatured alcohol or a solution of mild detergent and water.

It is advisable not to clean the tinted light filter because it is liable to be hurt with a slight scratch.

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
	2	FTE15	LUG TERMINAL		14062	895312220
	2	4G617087-0B8	P5512A PLATE:ATTEN GRD		ORGNL	261470870
	2	4G617100-0D8	P5512ASHIELD:ATTEN		ORGNL	261471000
100	1	ECCD2H010CC	C:FXD CER TC	1PF +-0.25PF 500V NPO	29897	823505040
101	1	4G440098-1	C:VAR AIR	1.7PF	ORGNL	836100441
102	1	ECKD2H471KB2	C:FXD CER HI-K	470PF +-10% 500V	29897	823503960
104	1	ECV1ZW04X53T	C:VAR CER	4PF	29456	834100051
105	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
106	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
108	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
110	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
112	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
115	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
116	1	ECQM1H332KZ	C:FXD FLM	3300PF 10% 50V	26550	825123340
121	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
122	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
124	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO	29897	822000640
131	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
139	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231
140	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	822000656
141	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231
143	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
147	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL	29897	822000626
148	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL	29897	822000626
151	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	822000656
154	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
155	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
156	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
166	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO	29897	822000660
167	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO	29897	822000659
172	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231
173	1	ECKF1H271KB	C:FXD CER HI-K	270PF +-10% 50V	29897	822000002
180	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
183	1	ECCW1H040DC5	C:FXD CER TC	4PF +-0.5PF 50V NPO	29897	822000643
186	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
200	1	ECCD2H010CC	C:FXD CER TC	1PF +-0.25PF 500V NPO	29897	823505040
201	1	4G440098-1	C:VAR AIR	1.7PF	ORGNL	836100441
202	1	ECKD2H471KB2	C:FXD CER HI-K	470PF +-10% 500V	29897	823503960
204	1	ECV1ZW04X53T	C:VAR CER	4PF	29456	834100051
205	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
206	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
208	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
210	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
212	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 3

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
C 215	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 216	1	ECQM1H332KZ	C:FXD FLM	3300PF 10% 50V	26550	825123340
C 221	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 222	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 224	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO	29897	822000640
C 231	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 239	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231
C 240	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	822000656
C 241	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231
C 243	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231
C 251	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	822000656
C 254	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 255	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
C 256	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
C 266	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO	29897	822000660
C 267	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO	29897	822000659
C 272	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231
C 280	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
C 294	1	ECCW1H040DC5	C:FXD CER TC	4PF +-0.5PF 50V NPO	29897	822000643
C 308	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 309	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 317	1	ECCW1H100FC5	C:FXD CER TC	10PF +-1.0PF 50V NPO	29897	822000649

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 4

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C 340	1	ECCW1H100FC5	C:FXD CER TC	10PF +-1.0PF 50V NPO	29897	822000649
C 355	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V	29897	823530680
C 364	1	ECCW1H100FC5	C:FXD CER TC	10PF +-1.0PF 50V NPO	29897	822000649
C 384	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 385	1	ECCW1H050DC5	C:FXD CER TC	5PF +-0.5PF 50V NPO	29897	822000644
C 392	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 393	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 398	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V	29897	823530680
C 405	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	822000656
C 411	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
C 417	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	822000656
C 423	1	ECCW1H330KC5	C:FXD CER TC	33PF +-10% 50V NPO	29897	822000655
C 424	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
C 430	1	ECCW1H060DC5	C:FXD CER TC	6PF +-0.5PF 50V NPO	29897	822000645
C 441	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 448	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO	29897	822000657
C 452	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL	29897	822000629
C 458	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 459	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310

TS LIST

V PRE ASSY DWG NO 4G204440 PAGE 5

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
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463	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
464	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
478	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
101	1	1S1544A	DIODE:SI	100MA 30V	12167	775001960
201	1	1S1544A	DIODE:SI	100MA 30V	12167	775001960
311	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
312	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
313	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
314	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
321	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
322	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
323	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
324	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
341	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
342	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
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344	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
361	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
362	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
363	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
364	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
399	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010

TS LIST

V PRE ASSY DWG NO 4G204440 PAGE 6

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
401	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
402	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
403	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
404	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
411	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
412	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
413	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
414	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
421	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
422	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
423	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
424	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
442	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
443	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
444	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
445	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
451	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
452	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
474	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
478	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
494	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
931	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
932	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
951	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
952	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010

PARTS LIST

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REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
E	101	1	1G401227-2	P5512A PC BOARD		ORGNL	971122720
J	300	1	EMCS1060	CONNECTOR:PIN	PLUG 10P	29850	911003350
J	301	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
J	302	1	EMCS1060	CONNECTOR:PIN	PLUG 10P	29850	911003350
J	303	1	EMCS1060	CONNECTOR:PIN	PLUG 10P	29850	911003350
J	304	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
J	305	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
J	307	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
J	308	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
J	309	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
J	319	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
J	951	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
J	952	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
J	953	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
J	954	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
L	398	1	ELEH1R0MA	COIL CHOKE	1UH 20%	29910	854002610
L	431	1	OP331HL82	FERRITE CORE		14419	897000250
L	432	1	OP331HL82	FERRITE CORE		14419	897000250
Q	100	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
Q	101	1	J309	TSTR:FET	PC:350MW FC:450MHZ	13760	769001790
Q	102	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 8

REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
Q	103	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
Q	104	1	UPA71A-L	TSTR:FET	PC:250MW	12167	769001540
Q	105	1	75A015	TSTR:SI NPN	2SC1733 SELECT	12167	769001230
Q	107	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	108	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	109	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
Q	110	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
Q	113	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	114	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	200	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
Q	201	1	J309	TSTR:FET	PC:350MW FC:450MHZ	13760	769001790
Q	202	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
Q	203	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
Q	204	1	UPA71A-L	TSTR:FET	PC:250MW	12167	769001540
Q	205	1	75A015	TSTR:SI NPN	2SC1733 SELECT	12167	769001230
Q	207	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	208	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	209	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
Q	210	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
Q	213	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	214	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	215	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	216	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q	303	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
Q	304	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
Q	311	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	762828120

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
321	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	762828120
331	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
332	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
333	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	762828120
351	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
352	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
353	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	762828120
379	1	75A015	TSTR:SI NPN	2SC1733 SELECT	12167	769001230
391	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
392	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
400	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
401	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
402	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
403	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
404	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
411	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
412	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
413	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
414	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
421	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
422	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
431	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
432	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
449	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
450	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
451	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
452	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
475	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
476	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
477	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
481	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
482	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
483	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
484	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
485	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
100	1	ERO25CKF2212	R:FXD MET FLM	22.1K OHM 1% 1/4W	29866	806622221
101	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321120
103	1	ERO25CKF2493	R:FXD MET FLM	249K OHM 1% 1/4W	29866	806623249
104	1	ERO50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W	29866	806643750
105	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	806628909
106	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
107	1	ERC14GK226	R:FXD COMP	22M OHM 10% 1/4W	29861	803266220
108	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
109	1	ERD25TJ621V	R:FXD CARBON	620 OHM 5% 1/4W	29866	807321620
110	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321270
112	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
113	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370
114	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W	29866	806622523
115	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W	29866	806622523
116	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
117	1	ERD10TJ102	R:FXD CARBON	1K OHM 5% 1/8W	29866	807142100
118	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 11

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 119	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	80732047
R 120	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W	29866	80732268
R 121	1	ERD10TJ220	R:FXD CARBON	22 OHM 5% 1/8W	29866	80714022
R 122	1	ERD50TJ102	R:FXD CARBON	1K OHM 5% 1/2W	29866	80742210
R 123	1	ERO25CKF2673	R:FXD MET FLM	267K OHM 1% 1/4W	29866	80662326
R 124	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	81990537
R 125	1	ERO50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W	29866	80664375
R 126	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	80732051
R 127	1	ERO25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W	29866	80662010
R 128	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W	14371	80990318
R 129	1	ERD25TJ120V	R:FXD CARBON	12 OHM 5% 1/4W	29866	80732012
R 130	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W	14371	80990318
R 131	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	81990537
R 132	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	80732347
R 133	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	80732110
R 134	1	ERD25TJ620V	R:FXD CARBON	62 OHM 5% 1/4W	29866	80732062
R 135	1	ERO25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W	29866	80662118
R 136	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	80732047
R 137	1	ERO25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W	29866	80662118
R 138	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W	29866	80662882
R 139	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	81990542
R 140	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	80732847
R 141	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	81990542
R 142	1	ERO25CKF24R3	R:FXD MET FLM	24.3 OHM 1% 1/4W	29866	80662824
R 143	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	80732847
R 144	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	80732847
R 145	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W	29866	80714075
R 146	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W	29866	80714075
R 147	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	80732156
R 148	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	80732156

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 12

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 149	1	ERO25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W	29866	806620511
R 150	1	ERO25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W	29866	806620511
R 151	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R 152	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R 153	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	819905420
R 154	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R 155	1	ERO25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W	29866	806628511
R 156	1	ERO25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W	29866	806628511
R 157	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W	29866	807322820
R 158	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R 159	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R 160	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 161	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W	29866	807323180
R 162	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W	29866	807323180
R 163	1	ERO25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W	29866	806620255
R 164	1	ERO25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W	29866	806620255
R 165	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W	29866	806620075
R 166	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	819905440
R 167	1	TM64K2PV2-53	R:VAR CERMET	5K OHM 20%	13750	819905390
R 168	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 169	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
R 170	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
R 171	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R 172	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R 173	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
R 174	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
R 175	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	807321820
R 176	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	807321820
R 177	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	807321560
R 178	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	807321560

D	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
79	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W	29866	807140390
80	1	ERD10TJ431	R:FXD CARBON	430 OHM 5% 1/8W	29866	807141430
81	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W	29866	807140470
82	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W	29866	807140470
83	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370
84	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W	29866	807323180
85	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
86	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
87	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
88	1	ERD25TJ302V	R:FXD CARBON	3K OHM 5% 1/4W	29866	807322300
89	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
90	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%	13750	819905380
92	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W	29866	807140390
97	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
98	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
99	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
00	1	ERD25CKF2212	R:FXD MET FLM	22.1K OHM 1% 1/4W	29866	806622221
01	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321120
03	1	ERD25CKF2493	R:FXD MET FLM	249K OHM 1% 1/4W	29866	806623249
04	1	ERD50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W	29866	806643750
05	1	ERD25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	806628909
06	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
07	1	ERC14GK226	R:FXD COMP	22M OHM 10% 1/4W	29861	803266220
08	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
09	1	ERD25TJ621V	R:FXD CARBON	620 OHM 5% 1/4W	29866	807321620
10	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321270
12	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
13	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
214	1	ERD25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W	29866	806622523
215	1	ERD25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W	29866	806622523
216	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
217	1	ERD10TJ102	R:FXD CARBON	1K OHM 5% 1/8W	29866	807142100
218	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
219	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
220	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W	29866	807322680
221	1	ERD10TJ220	R:FXD CARBON	22 OHM 5% 1/8W	29866	807140220
222	1	ERD50TJ102	R:FXD CARBON	1K OHM 5% 1/2W	29866	807422100
223	1	ERD25CKF2673	R:FXD MET FLM	267K OHM 1% 1/4W	29866	806623267
224	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370
225	1	ERD50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W	29866	806643750
226	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	807320510
227	1	ERD25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W	29866	806620100
228	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W	14371	809903180
229	1	ERD25TJ120V	R:FXD CARBON	12 OHM 5% 1/4W	29866	807320120
230	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W	14371	809903180
231	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370
232	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
233	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
234	1	ERD25TJ620V	R:FXD CARBON	62 OHM 5% 1/4W	29866	807320620
235	1	ERD25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W	29866	806621182
236	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
237	1	ERD25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W	29866	806621182
238	1	ERD25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W	29866	806628825
239	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	819905420
240	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
241	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	819905420
242	1	ERD25CKF24R3	R:FXD MET FLM	24.3 OHM 1% 1/4W	29866	806628243
243	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 15

REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R	244	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R	245	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W	29866	807140750
R	245	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
R	246	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W	29866	807140750
R	246	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
R	247	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	807321560
R	248	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	807321560
R	249	1	ERD25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W	29866	806620511
R	250	1	ERD25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W	29866	806620511
R	251	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R	252	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R	253	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	819905420
R	254	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R	255	1	ERD25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W	29866	806628511
R	256	1	ERD25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W	29866	806628511
R	257	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W	29866	807322820
R	258	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	259	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	260	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R	261	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W	29866	807323180
R	262	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W	29866	807323180
R	263	1	ERD25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W	29866	806620255
R	264	1	ERD25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W	29866	806620255
R	265	1	ERD25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W	29866	806620075
R	266	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	819905440
R	267	1	TM64K2PV2-53	R:VAR CERMET	5K OHM 20%	13750	819905390
R	268	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R	269	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
R	270	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
R	271	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220

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PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 16

REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R	272	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R	273	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
R	274	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
R	275	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	807321820
R	276	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	807321820
R	277	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	807321560
R	278	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W	29866	807321560
R	279	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W	29866	807140390
R	280	1	ERD10TJ431	R:FXD CARBON	430 OHM 5% 1/8W	29866	807141430
R	281	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W	29866	807140470
R	282	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W	29866	807140470
R	283	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370
R	284	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W	29866	807323180
R	285	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	286	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	287	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
R	288	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
R	289	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
R	290	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%	13750	819905380
R	291	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
R	292	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
R	293	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
R	294	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
R	295	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	296	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	297	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R	298	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R	299	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R	300	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W	29866	807140390
R	301	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
302	1	ERO2STJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
303	1	ERO2STJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
304	1	ERO2STJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
305	1	ERO2STJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
306	1	ERO2STJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
307	1	ERO2STJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
308	1	ERO2STJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
309	1	ERO2STJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
310	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
312	1	ERO2STJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321270
313	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
314	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
316	1	ERO2STJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
317	1	ERO2STJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
320	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
322	1	ERO2STJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321270
324	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
326	1	ERO2STJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
327	1	ERO2STJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
331	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
332	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
333	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
334	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
335	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
336	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
337	1	ERO2STJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
338	1	ERO2STJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
339	1	ERO2STJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
340	1	ERO2STJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
341	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
342	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
347	1	ERO2STJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321270
351	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
352	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
353	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
354	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
355	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
356	1	ERO2STJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
357	1	ERO2STJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
358	1	ERO2STJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
359	1	ERO2STJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
360	1	ERO2STJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
361	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
362	1	ERO2STJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
364	1	ERO2STJ750V	R:FXD CARBON	75 OHM 5% 1/4W	29866	807320750
367	1	ERO2STJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321270
369	1	ERO2SCAF6190	R:FXD MET FLM	619 OHM 1% 1/4W	29866	806620619
370	1	ERO2SCAF1320	R:FXD MET FLM	132 OHM 1% 1/4W	29866	806620132
371	1	ERO2SCAF9310	R:FXD MET FLM	910 OHM 1% 1/4W	29866	806620931
372	1	ERO2SCAF9310	R:FXD MET FLM	910 OHM 1% 1/4W	29866	806620931
373	1	ERO2SCAF3830	R:FXD MET FLM	383 OHM 1% 1/4W	29866	806620383
374	1	ERO2SCAF3830	R:FXD MET FLM	383 OHM 1% 1/4W	29866	806620383
375	1	ERO2SCAF1910	R:FXD MET FLM	191 OHM 1% 1/2W	29866	806640191

PARTS LIST

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REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 376	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	8073211(
R 377	1	ERO50CKF8060	R:FXD MET FLM	806 OHM 1% 1/2W	29866	8066408(
R 378	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	8073211(
R 379	1	ERO25CKF3010	R:FXD MET FLM	301 OHM 1% 1/4W	29866	8066203(
R 380	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W	29866	8073208(
R 381	1	ERO25CKF3010	R:FXD MET FLM	301 OHM 1% 1/4W	29866	8066203(
R 382	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	8073211(
R 383	1	ERO50CKF8060	R:FXD MET FLM	806 OHM 1% 1/2W	29866	8066408(
R 384	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	8073284(
R 385	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	8066289(
R 386	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	8066289(
R 387	1	ERO25CKF1820	R:FXD MET FLM	182 OHM 1% 1/4W	29866	8066201(
R 388	1	ERO25CKF6190	R:FXD MET FLM	619 OHM 1% 1/4W	29866	8066206(
R 389	1	ERD25TJ181V	R:FXD CARBON	180 OHM 5% 1/4W	29866	8073211(
R 390	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	8073214(
R 391	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	8073214(
R 392	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	8073211(
R 393	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	8073225(
R 394	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	8199054(
R 395	1	ERO25CKF4990	R:FXD MET FLM	499 OHM 1% 1/4W	29866	8066204(
R 396	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	8073225(
R 397	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	8073222(
R 398	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	8199054(
R 399	1	ERO25CKF1051	R:FXD MET FLM	1.05K OHM 1% 1/4W	29866	8066211(
R 400	1	TM64K2PV2-22	R:VAR CERMET	200 OHM 20%	13750	8199054(
R 401	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	8073205(
R 402	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	8073205(
R 403	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	8073222(
R 404	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	8073222(
R 405	1	ERO25CKF49R9	R:FXD MET FLM	49.9 OHM 1% 1/4W	29866	8066284(

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 20

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 406	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W	29866	8066200(
R 407	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W	29866	8066200(
R 408	1	ERO25CKF7870	R:FXD MET FLM	787 OHM 1% 1/4W	29866	8066207(
R 409	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	8073221(
R 410	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	8073221(
R 411	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W	29866	8066288(
R 412	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W	29866	8073208(
R 413	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	8073205(
R 414	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	8073205(
R 415	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	8073222(
R 416	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	8073222(
R 417	1	ERO25CKF49R9	R:FXD MET FLM	49.9 OHM 1% 1/4W	29866	8066284(
R 418	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W	29866	8066200(
R 419	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W	29866	8066200(
R 420	1	ERO25CKF7870	R:FXD MET FLM	787 OHM 1% 1/4W	29866	8066207(
R 421	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	8073221(
R 422	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	8073221(
R 423	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W	29866	8066288(
R 424	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W	29866	8073207(
R 425	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%	13750	8199053(
R 426	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	8073205(
R 427	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	8073205(
R 428	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	8073221(
R 429	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	8073221(
R 430	1	ERO25CKF2210	R:FXD MET FLM	221 OHM 1% 1/4W	29866	8066202(
R 431	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%	13750	8199053(
R 432	1	ERO25CKF5760	R:FXD MET FLM	576 OHM 1% 1/4W	29866	8066205(
R 433	1	ERO25CKF5760	R:FXD MET FLM	576 OHM 1% 1/4W	29866	8066205(
R 434	1	ERO50CKF6650	R:FXD MET FLM	665 OHM 1% 1/2W	29866	8066406(
R 435	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%	13750	8199053(

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
436	1	ERO25CKF4750	R:FXD MET FLM	475 OHM 1% 1/4W	29866	806620475
437	1	ERO50CKF3650	R:FXD MET FLM	365 OHM 1% 1/2W	29866	806640365
438	1	ERO25CKF4750	R:FXD MET FLM	475 OHM 1% 1/4W	29866	806620475
439	1	ERO50CKF6650	R:FXD MET FLM	665 OHM 1% 1/2W	29866	806640665
440	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
441	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
442	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
443	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
444	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
445	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
446	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
447	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
448	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
449	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W	29866	807322750
450	1	ERD25TJ513V	R:FXD CARBON	51K OHM 5% 1/4W	29866	807323510
451	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
452	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	807321820
453	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
454	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
455	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
456	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
457	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
458	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
459	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
460	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
461	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
462	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
463	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
464	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
465	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
466	1	ERD25TJ912V	R:FXD CARBON	9.1K OHM 5% 1/4W	29866	807322910
467	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W	29866	807322750
468	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
469	1	ERD25TJ912V	R:FXD CARBON	9.1K OHM 5% 1/4W	29866	807322910
470	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W	29866	807322750
471	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
472	1	ERD25TJ912V	R:FXD CARBON	9.1K OHM 5% 1/4W	29866	807322910
473	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W	29866	807322750
474	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
475	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
476	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
477	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
478	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
479	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
480	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	819905440
481	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
482	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
483	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
484	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
485	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	819905420
486	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W	29866	806628825
487	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W	29866	807321510
488	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
489	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
490	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
491	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
492	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W	29866	807320750
493	1	ERO25CKF2210	R:FXD MET FLM	221 OHM 1% 1/4W	29866	806620221
494	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
495	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 23

REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R	496	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	497	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
R	498	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	807320510
R	929	1	TM64K2PH-15	R:VAR CERMET	100K OHM 20%	13750	819905310
R	930	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	931	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	807323220
R	932	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W	29866	806512100
R	933	1	ERO25CHD2431	R:FXD MET FLM	2.43K OHM 0.5% 1/4W	29866	806511243
R	934	1	ERO25CHD4871	R:FXD MET FLM	4.87K OHM 0.5% 1/4W	29866	806511487
R	935	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W	29866	806512100
R	936	1	ERO25CHD2492	R:FXD MET FLM	24.9K OHM 0.5% 1/4W	29866	806512249
R	937	1	ERO25CHD4992	R:FXD MET FLM	49.9K OHM 0.5% 1/4W	29866	806512499
R	938	1	ERO25CHD1003	R:FXD MET FLM		29866	806513100
R	939	1	ERO25CHD2493	R:FXD MET FLM	249K OHM 0.5% 1/4W	29866	806513249
R	940	1	ERO50CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W	29866	806643499
R	941	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W	29866	806644100
R	942	1	ERL50CKF2494	R:FXD MET GRZ	2.49M OHM 1% 1/2W	29866	807654249
R	943	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
R	944	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	945	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R	946	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R	949	1	TM64K2PH-15	R:VAR CERMET	100K OHM 20%	13750	819905310
R	950	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	951	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	807323220
R	952	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W	29866	806512100
R	953	1	ERO25CHD2431	R:FXD MET FLM	2.43K OHM 0.5% 1/4W	29866	806511243
R	954	1	ERO25CHD4871	R:FXD MET FLM	4.87K OHM 0.5% 1/4W	29866	806511487
R	955	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W	29866	806512100
R	956	1	ERO25CHD2492	R:FXD MET FLM	24.9K OHM 0.5% 1/4W	29866	806512249

PARTS LIST

A V PRE ASSY DWG NO 4G204440 PAGE 24

REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R	957	1	ERO25CHD4992	R:FXD MET FLM	49.9K OHM 0.5% 1/4W	29866	806512499
R	958	1	ERO25CHD1003	R:FXD MET FLM		29866	806513100
R	959	1	ERO25CHD2493	R:FXD MET FLM	249K OHM 0.5% 1/4W	29866	806513249
R	960	1	ERO50CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W	29866	806643499
R	961	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W	29866	806644100
R	962	1	ERL50CKF2494	R:FXD MET GRZ	2.49M OHM 1% 1/2W	29866	807654249
R	963	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
R	964	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R	965	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R	969	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
RT	101	1	ERTD2FGL750S	THERMISTOR	75 OHM 15%	29890	809900370
RT	201	1	ERTD2FGL750S	THERMISTOR	75 OHM 15%	29890	809900370
S	012	1	3G410248	P5512A ROTARY SW	ATT	ORGNL	870220700
S	022	1	3G410248	P5512A ROTARY SW	ATT	ORGNL	870220700
S	901	1	3G410247	P5512A ROTARY SW	TIMING	ORGNL	870220600
U	112	1	UPC157C	IC:OP AMP		12167	620015710
U	212	1	UPC157C	IC:OP AMP		12167	620015710
U	461	1	TC40H107P	IC:MOS	DUAL J-K FLIP-FLOP	17160	602020810
U	462	1	TC40H107P	IC:MOS	DUAL J-K FLIP-FLOP	17160	602020810

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
463	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE	17160	492000260
464	1	TC40H010P	IC:MOS	TRIPLE 3-1NPUT NAND GATE	17160	602020800
465	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE	17160	492000260
466	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE	17160	492000260
467	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE	17160	492000260
478	1	UPC14305H	IC:V RGLTR	+5V 1A	12167	621430520
311	1	XZ051	DIODE:ZENER	5.1V 500MW	12385	775001620
321	1	XZ051	DIODE:ZENER	5.1V 500MW	12385	775001620
333	1	XZ051	DIODE:ZENER	5.1V 500MW	12385	775001620
353	1	XZ051	DIODE:ZENER	5.1V 500MW	12385	775001620
397	1	XZ051	DIODE:ZENER	5.1V 500MW	12385	775001620
104	1	4G614902-0XB	HOLDER:NEON		ORGNL	261449020
204	1	4G614902-0XB	HOLDER:NEON		ORGNL	261449020

PARTS LIST

A SWEEP ASSY DWG NO 4G204441 PAGE 1

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR CODE-NO	
	1	4G617076-1CB	P5512A HEAT SINK:H-OUT		ORGNL	26147076
C 601	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL	29897	82200062
C 603	1	ECV1ZW40X53T	C:VAR CER	40PF	29456	83410092
C 604	1	ECCW2H040DC	C:FXD CER TC	4PF +-0.5PF 500V NPO	29897	82355633
C 605	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 606	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	82200065
C 607	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO	29897	82200065
C 608	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	82200065
C 610	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 611	1	ECV1ZW40X53T	C:VAR CER	40PF	29456	83410092
C 612	1	ECV1ZW02X53T	C:VAR CER	2PF	29456	83410008
C 614	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	82200065
C 615	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V	14442	82540010
C 618	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 620	1	ECCW1H121KC5	C:FXD CER TC	120PF +-10% 50V NPO	29897	82200066
C 621	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL	29897	82200062
C 622	1	ECCW1H070DC5	C:FXD CER TC	7PF +-0.5PF 50V NPO	29897	82200064
C 623	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 624	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 625	1	ECEA1HS4R7	C:FXD AL ELECT	4.7UF +30%-10% 50V	29880	82001884
C 626	1	ECEA1HS010	C:FXD AL ELECT	1UF +30%-10% 50V	29880	82001881
C 627	1	ECEA1HS010	C:FXD AL ELECT	1UF +30%-10% 50V	29880	82001881
C 628	1	ECEA1CS220	C:FXD AL ELECT	22UF +30%-10% 16V	29880	82001832
C 629	1	ECEA1CS220	C:FXD AL ELECT	22UF +30%-10% 16V	29880	82001832

PARTS LIST

A SWEEP ASSY DWG NO 4G204441 PAGE 2

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR CODE-NO	
C 637	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 638	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	82001831
C 643	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	82001831
C 656	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 657	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 665	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	82200065
C 669	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO	29897	82200065
C 673	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 674	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	82200010
C 679	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 681	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 682	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	82200065
C 686	1	ECEA1HS4R7	C:FXD AL ELECT	4.7UF +30%-10% 50V	29880	82001884
C 688	1	ECEA1HS4R7	C:FXD AL ELECT	4.7UF +30%-10% 50V	29880	82001884
C 695	1	ECEA1CS470	C:FXD AL ELECT	47UF +30%-10% 16V	29880	82001834
C 701	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL	29897	82200062
C 703	1	ECV1ZW40X53T	C:VAR CER	40PF	29456	83410092
C 705	1	ECEA1HS010	C:FXD AL ELECT	1UF +30%-10% 50V	29880	82001881
C 706	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 707	1	ECCW1H100FC5	C:FXD CER TC	10PF +-1.0PF 50V NPO	29897	82200064
C 711	1	ECV1ZW40X53T	C:VAR CER	40PF	29456	83410092

	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
2	1	ECV1ZW02X53T	C:VAR CER	2PF	29456	834100081
3	1	ECCW1H330KC5	C:FXD CER TC	33PF +-10% 50V NPO	29897	822000655
5	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V	14442	825400100
8	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	822000109
2	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO	29897	822000640
3	1	ECCW1H221K5	C:FXD CER TC	220PF +-10% 50V SL	29897	822000625
4	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
0	1	ECKF1H103MD	C:FXD CER HI-K	10000PF +-20% 50V	29897	822000025
7	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	822000109
4	1	ECKF1H102KB	C:FXD CER HI-K	1000PF +-10% 50V	29897	822000009
5	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	822000653
9	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO	29897	822000657
3	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	822000109
4	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	822000109
9	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
1	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
2	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO	29897	822000656
0	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
1	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
07	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
10	1	ECCW1H180KC5	C:FXD CER TC	18PF +-10% 50V NPO	29897	822000652

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
813	1	ECKW1H391KB5	C:FXD CER HI-K	390PF +-10% 50V	29897	822000104
817	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO	29897	822000659
820	1	ECCW1H151KC5	C:FXD CER TC	150PF +-10% 50V NPO	29897	822000663
823	1	ECEA1CS470	C:FXD AL ELECT	47UF +30%-10% 16V	29880	820018340
824	1	ECEA1HS4R7	C:FXD AL ELECT	4.7UF +30%-10% 50V	29880	820018840
825	1	ECCW1H020CC5	C:FXD CER TC	2PF +-0.25PF 50V NPO	29897	822000641
839	1	ECEA1HS010	C:FXD AL ELECT	1UF +30%-10% 50V	29880	820018810
843	1	ECEA1HS010	C:FXD AL ELECT	1UF +30%-10% 50V	29880	820018310
850	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
852	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
862	1	ECCW1H181KC5	C:FXD CER TC	180PF +-10% 50V NPO	29897	822000664
879	1	ECCW1H020CC5	C:FXD CER TC	2PF +-0.25PF 50V NPO	29897	822000641
880	1	ECCW1H270KC5	C:FXD CER TC	27PF +-10% 50V NPO	29897	822000654
881	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
882	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
884	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
886	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
887	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
888	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
891	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
901	1	XDM15C330K5	C:FXD MICA	33PF 10% 500V	12440	824800050
902	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100231

PARTS LIST

A		SWEEP ASSY	DWG NO 4G204441		PAGE 5	
REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR CODE-NO	
C 906	1	ECQK1102GZ	C:FXD FLM	1000PF 2% 100V	26550	82561211
C 907	1	ECQM1H103JZ	C:FXD FLM	0.01UF 5% 50V	26550	82516310
C 908	1	ECCW1H221K5	C:FXD CER TC	220PF +-10% 50V SL	29897	82200062
C 910	1	ECQK1104GZ	C:FXD FLM	0.1UF 2% 100V	26550	82561411
C 911	1	ECQE1106JN	C:FXD FLM	10UF 5% 100V	26550	82570006
C 912	1	ECQM1H154KZ	C:FXD FLM	0.15UF 10% 50V	26550	82516415
C 913	1	ECEA1HS3R3	C:FXD AL ELECT	3.3UF 20% 50V	29880	82001883
C 914	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 920	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 921	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 922	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 923	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 924	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	82001831
C 925	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	82001831
C 971	1	XDM15C390K5	C:FXD MICA	39PF 10% 500V	12440	82480035
C 972	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	83410023
C 976	1	ECQK1102GZ	C:FXD FLM	1000PF 2% 100V	26550	82561211
C 977	1	ECQM1H103JZ	C:FXD FLM	0.01UF 5% 50V	26550	82516310
C 981	1	ECQK1105JG	C:FXD FLM	1UF 5% 100V	26550	82558002
C 984	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 991	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 992	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 993	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 994	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 996	1	ECCW1H101KC5	C:FXD CER TC	100PF +-10% 50V NPO	29897	82200066

PARTS LIST

A		SWEEP ASSY	DWG NO 4G204441		PAGE 6	
REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR CODE-NO	
C 998	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
CR 618	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 625	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 644	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 718	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 723	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 798	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 799	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 802	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 803	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 804	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 805	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 810	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 811	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 812	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 815	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 818	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 820	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 823	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 824	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 825	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010

LIST

SWEEP ASSY DWG NO 4G204441 PAGE 7

)	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
26	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
43	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
76	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
84	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
87	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
07	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
77	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
96	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
97	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
00	1	AR4133S	LED	RED	17194	776001040
48	1	AR4133S	LED	RED	17194	776001040
01	1	1G401228-2	P5512A PC BOARD		ORGNL	971122820
00	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
01	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
02	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
04	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
05	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150

S LIST

SWEEP ASSY DWG NO 4G204441 PAGE 8

NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
906	1	EMCS1060	CONNECTOR:PIN	PLUG 10P	29850	911003350
907	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
908	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
909	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
910	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
911	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
912	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
913	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
915	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
918	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
948	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
969	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
924	1	3L0004	FERRITE CORE		14419	897000170
925	1	3L0004	FERRITE CORE		14419	897000170
601	1	J309	TSTR:FET	PC:350MW FC:450MHZ	13760	769001790
602	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
603	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
604	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
605	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
606	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
607	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
608	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
609	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500

PARTS LIST

A SWEEP ASSY DWG NO 46204441

REF NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
Q 610	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 611	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	7642026(
Q 612	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	7601206(
Q 613	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	7642901(
Q 614	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	7605641(
Q 615	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	7605641(
Q 617	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	7642026(
Q 701	1	J309	TSTR:FET	PC:350MW FC:450MHZ	13760	7690017(
Q 702	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 703	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 704	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 705	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 706	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 707	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	7601206(
Q 708	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	7601206(
Q 709	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 710	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	7641215(
Q 711	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	7642026(
Q 801	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	7628281(
Q 803	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 804	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 805	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	7642901(
Q 806	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	7642901(
Q 807	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	7642901(
Q 808	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 821	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(

PARTS LIST

A SWEEP ASSY DWG NO 46204441

REF NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
Q 822	1	UPA74V	TSTR:FET	PC:300MW FT:350MHZ	12167	7690017(
Q 823	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 824	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 825	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 851	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 852	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 853	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 854	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	7601206(
Q 855	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	7601206(
Q 861	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 862	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 863	1	2N3906	TSTR:SI PNP	PC:300MW FT:250MHZ	12167	7690015(
Q 864	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	7642901(
Q 865	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	7642901(
Q 866	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 881	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 882	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	7608380(
Q 883	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 884	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 885	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	7641359(
Q 886	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	7605641(
Q 901	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	7628281(
Q 902	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	7628281(
Q 903	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	7628281(
Q 904	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	7628281(
Q 905	1	2SA722-TU	TSTR:SI PNP	PC:150MW FT:250MHZ	29269	7607220(
Q 982	1	2SA722-TU	TSTR:SI PNP	PC:150MW FT:250MHZ	29269	7607220(

	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
1	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
2	1	ER050CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W	29866	806644100
3	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
4	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
5	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
6	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
7	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
8	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
9	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
0	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
1	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
2	1	ER050CKF9533	R:FXD MET FLM	953K OHM 1% 1/2W	29866	806643953
3	1	ER025CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W	29866	806622523
4	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
5	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100
6	1	ER050CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W	29866	806643499
7	1	ER050CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W	29866	806644100
8	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100
9	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
20	1	ERD25TJ751V	R:FXD CARBON	750 OHM 5% 1/4W	29866	807321750
21	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100
22	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
23	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100
24	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
24	1	ERD25TJ910V	R:FXD CARBON	91 OHM 5% 1/4W	29866	807320910
25	1	ERD25TJ563V	R:FXD CARBON	56K OHM 5% 1/4W	29866	807323560
26	1	ERD25TJ474V	R:FXD CARBON	470K OHM 5% 1/4W	29866	807324470
27	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
28	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
29	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
630	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
631	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
632	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
633	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
634	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
635	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
636	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
637	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
639	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
640	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W	29866	807322270
641	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
642	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	819905440
643	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
644	1	ERD25TJ911V	R:FXD CARBON	910 OHM 5% 1/4W	29866	807321910
645	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
646	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
647	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
648	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
649	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W	29866	807320820
650	1	4G440477	P5220A R:VAR CARBON	TRIG LEVEL	ORGNL	819910720
651	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
652	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370
653	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
654	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
655	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
656	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
657	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
658	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
659	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220

PARTS LIST

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REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R	660	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322
R	661	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320
R	662	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320
R	663	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	664	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	665	1	ERD25TJ430V	R:FXD CARBON	43 OHM 5% 1/4W	29866	807320
R	666	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W	29866	807322
R	667	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321
R	668	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321
R	669	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	807320
R	670	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R	671	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	672	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	673	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321
R	674	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321
R	675	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321
R	676	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321
R	677	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321
R	678	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R	679	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320
R	680	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	681	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321
R	682	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321
R	683	1	ERD25TJ331V	R:FXD CARBON	330 OHM 5% 1/4W	29866	807321
R	684	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	685	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	686	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	687	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	688	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	689	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321

PARTS LIST

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REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R	690	1	ERD25TJ155V	R:FXD CARBON	1.5M OHM 5% 1/4W	29866	807325
R	691	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	692	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R	693	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322
R	694	1	ERD25TJ393V	R:FXD CARBON	39K OHM 5% 1/4W	29866	807323
R	695	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322
R	696	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	697	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320
R	698	1	TM64K2PV2-15	R:VAR CERMET	100K OHM 20%	13750	819905
R	699	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	700	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321
R	701	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R	702	1	ERD50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W	29866	806644
R	703	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W	29866	807321
R	704	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W	29866	807321
R	705	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	707	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321
R	708	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	709	1	ERD25TJ680V	R:FXD CARBON	68 OHM 5% 1/4W	29866	807320
R	710	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321
R	712	1	ERD50CKF9533	R:FXD MET FLM	953K OHM 1% 1/2W	29866	806643
R	713	1	ERD25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W	29866	806622
R	714	1	ERD50CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W	29866	806643
R	715	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	717	1	ERD50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W	29866	806644
R	718	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324
R	719	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321
R	720	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807321
R	721	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807321

O	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
22	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
23	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
24	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
29	1	TM64K2PV2-22	R:VAR CERMET	200 OHM 20%	13750	819905430
30	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
31	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
32	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
33	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
34	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
35	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
37	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
39	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
40	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W	29866	807322270
41	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
42	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	819905440
45	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
46	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
47	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
48	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
49	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W	29866	807320820
50	1	4G440477	PS220A R:VAR CARBON	TRIG LEVEL	ORGNL	819910720
51	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
52	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	819905370
53	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
54	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
55	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W	29866	807322240
56	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
57	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
58	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
59	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
60	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
61	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
62	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
63	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
64	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
65	1	ERD25TJ430V	R:FXD CARBON	43 OHM 5% 1/4W	29866	807320430
66	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
67	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
68	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
69	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W	29866	807320510
70	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
71	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
72	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
73	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321120
74	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321120
75	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
76	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
77	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W	29866	807321270
78	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
79	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
80	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
81	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
82	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
83	1	ERD25TJ331V	R:FXD CARBON	330 OHM 5% 1/4W	29866	807321330
84	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
85	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
86	1	ERD25CKF1101	R:FXD MET FLM	1.10K OHM 1% 1/4W	29866	806621110
87	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100

PARTS LIST

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REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 788	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R 789	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321
R 790	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328
R 791	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328
R 792	1	TM64K2PV2-54	R:VAR CERMET	50K OHM 20%	13750	81990
R 793	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322
R 794	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322
R 795	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322
R 796	1	TM64K2PV2-54	R:VAR CERMET	50K OHM 20%	13750	81990
R 797	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321
R 798	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R 799	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322
R 800	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322
R 801	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R 802	1	ERD25TJ302V	R:FXD CARBON	3K OHM 5% 1/4W	29866	807323
R 803	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322
R 804	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322
R 805	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W	29866	807322
R 806	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W	29866	807321
R 807	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W	29866	807321
R 808	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322
R 809	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322
R 810	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W	29866	807321
R 811	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R 812	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320
R 813	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323
R 814	1	ERD25TJ333V	R:FXD CARBON	33K OHM 5% 1/4W	29866	807323
R 815	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W	29866	807322
R 816	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807325
R 817	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807325

PARTS LIST

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REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 818	1	ERD25TJ823V	R:FXD CARBON	82K OHM 5% 1/4W	29866	807323820
R 819	1	ERD25TJ823V	R:FXD CARBON	82K OHM 5% 1/4W	29866	807323820
R 820	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
R 821	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 822	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 823	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 824	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
R 825	1	ERD25CKF5621	R:FXD MET FLM	5.62K OHM 1% 1/4W	29866	806621562
R 826	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100
R 827	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807323330
R 828	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
R 829	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W	29866	807322270
R 830	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
R 831	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R 832	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
R 833	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
R 834	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W	29866	807321510
R 835	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W	29866	807321510
R 836	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R 838	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	807323220
R 839	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W	29866	807323270
R 840	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%	13750	81990534
R 842	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	81990544
R 844	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
R 845	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
R 846	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 847	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 848	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470

T LIST

SWEEP ASSY DWG NO 46204441 PAGE 19

NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
49	1	ERO2ST J103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
50	1	ERO2ST J47V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807323470
51	1	ERO2ST J682V	R:FXD CARBON	6.8K OHM 5% 1/4W	29866	807322680
52	1	ERO2SCXF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W	29866	806621475
53	1	ERO2SCXF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W	29866	806621475
54	1	ERO2ST J47V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
55	1	ERO2ST J51V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
56	1	ERO2ST J47V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
57	1	ERO2ST J103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
58	1	ERO2ST J47V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
59	1	ERO2ST J103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
60	1	ERO2ST J103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
61	1	ERO2ST J103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
62	1	ERO2ST J221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
63	1	ERO2ST J102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
64	1	ERO2ST J152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
65	1	ERO2ST J152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
66	1	ERO2ST J122V	R:FXD CARBON	1.2K OHM 5% 1/4W	29866	807322120
67	1	ERO2ST J152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
68	1	ERO2ST J681V	R:FXD CARBON	680 OHM 5% 1/4W	29866	807321680
69	1	ERO2ST J122V	R:FXD CARBON	1.2K OHM 5% 1/4W	29866	807322120
70	1	ERO2ST J471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
71	1	ERO2ST J102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
72	1	ERO2ST J152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	807322150
73	1	ERO2ST J102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
74	1	ERO2ST J512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
75	1	ERO2ST J823V	R:FXD CARBON	82K OHM 5% 1/4W	29866	807323820
76	1	ERO2ST J512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
77	1	ERO2ST J823V	R:FXD CARBON	82K OHM 5% 1/4W	29866	807323820
78	1	ERO2ST J102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100

T LIST

SWEEP ASSY DWG NO 46204441 PAGE 20

NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
679	1	ERO2ST J392V	R:FXD CARBON	3.9K OHM 5% 1/4W	29866	807322390
680	1	ERO2ST J103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
681	1	ERO2ST J333V	R:FXD CARBON	33K OHM 5% 1/4W	29866	807323330
682	1	ERO2SCXF4531	R:FXD MET FLM	4.53K OHM 1% 1/4W	29866	806621453
683	1	ERO2ST J512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
684	1	ERO2ST J622V	R:FXD CARBON	6.2K OHM 5% 1/4W	29866	807322620
685	1	ERO2ST J153V	R:FXD CARBON	15K OHM 5% 1/4W	29866	807323150
686	1	ERO2ST J332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
687	1	ERO2ST J752V	R:FXD CARBON	7.5K OHM 5% 1/4W	29866	807322750
688	1	ERO2ST J220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
689	1	ERO2ST J472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
690	1	ERO2ST J123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
691	1	ERO2ST J273V	R:FXD CARBON	27K OHM 5% 1/4W	29866	807323270
692	1	ERO2ST J123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
693	1	ERO2ST J47V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
694	1	ERO2ST J273V	R:FXD CARBON	27K OHM 5% 1/4W	29866	807323270
695	1	ERO2ST J183V	R:FXD CARBON	18K OHM 5% 1/4W	29866	807323180
696	1	ERO2ST J232V	R:FXD CARBON	2.3K OHM 5% 1/4W	29866	807322300
697	1	ERO2ST J681V	R:FXD CARBON	680 OHM 5% 1/4W	29866	807321680
698	1	ERO2ST J473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
699	1	ERO2ST J512V	R:FXD CARBON	5.1K OHM 5% 1/4W	29866	807322510
700	1	ERO2ST J101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
701	1	ERO2ST J222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
702	1	ERO2ST J123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
703	1	ERO2SCXF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W	29866	806621475
704	1	ERO2ST J471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
705	1	ERO2ST J222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
706	1	ERO2ST J123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
707	1	RN60A2F1211F	R:FXD CERMET	1.21K OHM 1%	13750	819005340
708	1	ERO2ST J471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470

PARTS LIST

A SWEEP ASSY DWG NO 4G204441 PAGE 21

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 910	1	ERO25CKF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W	29866	806621475
R 911	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%	13750	819905340
R 912	1	ERO25CKF9091	R:FXD MET FLM	9.09K OHM 1% 1/4W	29866	806621909
R 913	1	ERO25CKF2742	R:FXD MET FLM	27.4K OHM 1% 1/4W	29866	806622274
R 914	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
R 915	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 915	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 916	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 917	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 918	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 920	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 921	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 922	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 923	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 926	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R 927	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
R 928	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R 929	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R 948	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W	29866	807322240
R 970	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 971	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 972	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 973	1	ERO25CKF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W	29866	806621475
R 977	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%	13750	819905340
R 981	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%	13750	819905340
R 982	1	ERO25CKF9091	R:FXD MET FLM	9.09K OHM 1% 1/4W	29866	806621909
R 983	1	ERO25CKF2742	R:FXD MET FLM	27.4K OHM 1% 1/4W	29866	806622274
R 984	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100

PARTS LIST

A SWEEP ASSY DWG NO 4G204441 PAGE 22

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 991	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 992	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 993	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 994	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
R 995	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
R 996	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W	29866	807322120
R 997	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
R 998	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
R 999	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	807321470
S 601	1	82S03	LEVER SW		11154	875310210
S 602	1	82S03	LEVER SW		11154	875310210
S 701	1	82S03	LEVER SW		11154	875310210
S 702	1	82S03	LEVER SW		11154	875310210
U 621	1	EHM826W19A	P5230A HI MIC	TV SWEEP	29930	769540130
U 681	1	HD10107	IC:ECL	TRIPLE 2-IN X OR/NOR	14458	659990120
U 781	1	HD10107	IC:ECL	TRIPLE 2-IN X OR/NOR	14458	659990120
U 801	1	HD10131	IC:ECL	DUAL D MASTER-SLAVE F-F	14458	659990060
U 802	1	SN74LS123N	IC:TTL LS	DUAL MONO MULTIVIBRATOR	14558	647412320
U 803	1	SN74LS112N	IC:TTL LS	DUAL J-K FLIP-FLOP	14558	647411220
U 804	1	SN74LS132N	IC:TTL LS	QUAD 2-IN NAND SCHMITT	14558	647413220
U 805	1	SN7409N	IC:TTL	QUAD 2-IN AND GATE O/C	14558	640740900
U 806	1	SN74LS132N	IC:TTL LS	QUAD 2-IN NAND SCHMITT	14558	647413220
U 807	1	HD10131	IC:ECL	DUAL D MASTER-SLAVE F-F	14458	659990060

T LIST

SWEEP ASSY DWG NO 4G204441 PAGE 23

ID	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
08	1	SN74LS132N	IC:TTL LS	QUAD 2-IN NAND SCHMITT	14558	647413220
21	1	EHM210A45A	P5230A HI MIC	DARLINTON	29930	769540100
22	1	EHM210A45A	P5230A HI MIC	DARLINTON	29930	769540100
01	1	EHM215E33	P5230A HI MIC	A SWEEP TIME	29930	769540140
71	1	EHM216E34	P5230A HI MIC	A SWEEP TIME	29930	769540150
91	1	SN74LS112N	IC:TTL LS	DUAL J-K FLIP-FLOP	14558	647411220
92	1	SN74LS00N	IC:TTL LS	QUAD 2-INPUT NAND GATE	14558	640740020
93	1	SN74LS00N	IC:TTL LS	QUAD 2-INPUT NAND GATE	14558	640740020
94	1	SN74LS10N	IC:TTL LS	TRIPLE 3-INPUT NAND GATE	14558	640741020
97	1	UPC14305H	IC:V RGLTR	+5V 1A	12167	621430520
67	1	XZ057	DIODE:ZENER	5.7V 500MW	12385	775001810
767	1	XZ057	DIODE:ZENER	5.7V 500MW	12385	775001810
855	1	XZ074	DIODE:ZENER	7.4V 500MW	12385	775001830
898	1	XZ074	DIODE:ZENER	7.4V 500MW	12385	775001830

PARTS LIST

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REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR CODE-NO	
	2	4G616694-008	P5220A CLAMP:TR-3		ORGNL	2614669
	1	4G617081-003	P5512A HEAT SINK:POWER		ORGNL	2614708
C 1004	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 1006	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 1012	1	ECEA1AS101	C:FXD AL ELECT	100UF +30%-10% 10V	29880	820018180
C 1018	1	ECCW1H221K5	C:FXD CER TC	220PF +-10% 50V SL	29897	822000062
C 1022	1	ECEA1AS101	C:FXD AL ELECT	100UF +30%-10% 10V	29880	820018180
C 1028	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO	29897	822000065
C 1072	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1074	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1076	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100230
C 1077	1	ECCW2H010CC	C:FXD CER TC	1PF +-0.25PF 500V NPO	29897	823556300
C 1079	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1082	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1086	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	834100230
C 1087	1	ECCW2H020CC	C:FXD CER TC	2PF +-0.25PF 500V NPO	29897	823556310
C 1088	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1092	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1093	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1094	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310

PARTS LIST

A POWER ASSY DWG NO 4G204442 PAGE 2

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR CODE-NO	
C 1095	1	ECEA1CS470	C:FXD AL ELECT	47UF +30%-10% 16V	29880	820018340
C 1096	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 1097	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1125	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV	13977	823511050
C 1126	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV	13977	823511050
C 1156	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 1167	1	ECCW1H020CC5	C:FXD CER TC	2PF +-0.25PF 50V NPO	29897	822000641
C 1168	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO	29897	822000640
C 1171	1	ECV1ZW04X53T	C:VAR CER	4PF	29456	834100051
C 1172	1	ECKW2H102M0	C:FXD CER HI-K	1000PF +-20% 500V	29897	823552100
C 1174	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	822000133
C 1176	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1184	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1190	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1195	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1201	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1202	1	ECET2SR472SL	C:FXD AL ELECT	4700UF -10%+30% 25V	29880	820234550
C 1203	1	ECET2SR472SL	C:FXD AL ELECT	4700UF -10%+30% 25V	29880	820234550
C 1204	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1205	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1207	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1221	1	ECKW2H103PE3	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1222	1	ECET16R472SL	C:FXD AL ELECT	4700UF -10%+30% 16V	29880	820234070

N LIST

POWER ASSY DWG NO 4G204442 PAGE 3

O	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
231	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
232	1	ECEA2AS221	C:FXD AL ELECT	220UF 20% 100V	29880	820018980
250	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
251	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
252	1	ECEA2AS221	C:FXD AL ELECT	220UF 20% 100V	29880	820018980
255	1	ECKW1H473ZF5	C:FXD CER HI-K	47000PF +80-20% 50V	29897	822000135
256	1	ECEA35Z4R7	C:FXD AL ELECT	4.7UF +20%-20% 35V	29880	820074650
030	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
034	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
049	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
051	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
052	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
058	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
059	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
061	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
062	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
124	1	1SS83TP	DIODE:SWITCHING	200MA 250V	14458	775002370
125	1	1SS83TP	DIODE:SWITCHING	200MA 250V	14458	775002370
126	1	1SS83TP	DIODE:SWITCHING	200MA 250V	14458	775002370
153	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
161	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010

S LIST

POWER ASSY DWG NO 4G204442 PAGE 4

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
1178	1	1SS83TP	DIODE:SWITCHING	200MA 250V	14458	775002370
1201	1	S3V10	DIODE:PWR RECT	3.5A 100V	12353	772000860
1202	1	S3V10	DIODE:PWR RECT	3.5A 100V	12353	772000860
1203	1	S3V10	DIODE:PWR RECT	3.5A 100V	12353	772000860
1204	1	S3V10	DIODE:PWR RECT	3.5A 100V	12353	772000860
1205	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
1206	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
1221	1	S1RBA40F	DIODE:PWR RECT	1A 400V	12353	772000961
1231	1	S1RBA60F	DIODE:PWR RECT	1A 600V	12353	772000971
1251	1	S1RBA40F	DIODE:PWR RECT	1A 400V	12353	772000961
1201	1	1G401229-3	P5512A PC BOARD		ORGNL	971122930
1101	1	TSC1A	FUSE	1A 250V 20MM	12219	891000130
1253	1	SC100MA	FUSE	100MA 250V 20MM	12219	891000010
1201	1	EMCS1060	CONNECTOR:PIN	PLUG 10P	29850	911003350
1202	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
1203	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
1204	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
1205	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
1206	1	EMCS1060	CONNECTOR:PIN	PLUG 10P	29850	911003350

PARTS LIST

A POWER ASSY DWG NO 4G204442 PAGE 5

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
J 1207	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	91100315
J 1209	1	163680-3	CONNECTOR	CIS 5P 2.5PITCH	14441	91110123
J 1210	1	1-380991-0	CONNECTOR	PIN HEADER 10P	14441	91110122
L 1091	1	ELEH5R6KA	COIL:CHOKE	5.6UH	29910	854002700
L 1097	1	ELEH5R6KA	COIL:CHOKE	5.6UH	29910	854002700
L 1196	1	ELEH5R6KA	COIL:CHOKE	5.6UH	29910	854002700
L 1197	1	ELEH5R6KA	COIL:CHOKE	5.6UH	29910	854002700
M 1180	1	75A049-TM3	TIMER	100HR	15579	962200050
Q 1000	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
Q 1001	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	764290100
Q 1002	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ	12167	764290100
Q 1003	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q 1004	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q 1005	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q 1006	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q 1007	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
Q 1008	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
Q 1009	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	762828120
Q 1010	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
Q 1011	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
Q 1012	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910

PARTS LIST

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REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
Q 1013	1	2SB648A	TSTR:SI PNP	PC:1W FT:140MHZ	14458	761648010
Q 1014	1	2SD668A	TSTR:SI NPN	PC:1W FT:140MHZ	14458	763668010
Q 1021	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
Q 1022	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
Q 1023	1	2SB648A	TSTR:SI PNP	PC:1W FT:140MHZ	14458	761648010
Q 1024	1	2SD668A	TSTR:SI NPN	PC:1W FT:140MHZ	14458	763668010
Q 1030	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q 1133	1	2SA879NC	TSTR:SI PNP	PC:1W	29269	760879010
Q 1134	1	2SA879NC	TSTR:SI PNP	PC:1W	29269	760879010
Q 1135	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	762828120
Q 1151	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	760564110
Q 1152	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ	29269	764121500
Q 1153	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ	29269	762828120
Q 1154	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ	12167	760120600
Q 1155	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ	29269	764225800
Q 1156	1	2SA914	TSTR:SI PNP	PC:1W FT:200MHZ	29269	760914000
Q 1180	1	2SC1509-RS	TSTR:SI NPN	PC:750MW FT:120MHZ	29269	764150910
Q 1181	1	2SA777-RS	TSTR:SI PNP	PC:750MW FT:120MHZ	29269	760777010
Q 1182	1	2SC1509-RS	TSTR:SI NPN	PC:750MW FT:120MHZ	29269	764150910
Q 1183	1	2SA777-RS	TSTR:SI PNP	PC:750MW FT:120MHZ	29269	760777010
Q 1185	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ	29269	764225800
R 1003	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
R 1004	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	807323120
R 1005	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
R 1006	1	ERD25TJ124V	R:FXD CARBON	120K OHM 5% 1/4W	29866	807324120

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
008	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	807321220
009	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
011	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W	29866	807323150
012	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
013	1	ERO25CKF2431	R:FXD MET FLM	2.43K OHM 1% 1/4W	29866	806621243
014	1	ERO25CKF2431	R:FXD MET FLM	2.43K OHM 1% 1/4W	29866	806621243
015	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W	29866	807322270
016	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W	29866	807322270
017	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W	29866	807321680
018	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W	29866	807320100
019	1	ERO25CKF2431	R:FXD MET FLM	2.43K OHM 1% 1/4W	29866	806621243
1022	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
1023	1	ERO25CKF6810	R:FXD MET FLM	681 OHM 1% 1/4W	29866	806620681
1024	1	ERO25CKF6810	R:FXD MET FLM	681 OHM 1% 1/4W	29866	806620681
1025	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
1026	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	819905420
1027	1	ERO25CKF47R5	R:FXD MET FLM	47.5 OHM 1% 1/4W	29866	806628475
1028	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
1029	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
1030	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
1032	1	ERD25TJ621V	R:FXD CARBON	620 OHM 5% 1/4W	29866	807321620
1033	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
1034	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
1035	1	ERO25CKF1131	R:FXD MET FLM	1.13K OHM 1% 1/4W	29866	806621113
1036	1	ERO25CKF8251	R:FXD MET FLM	8.25K OHM 1% 1/4W	29866	806621825
1037	1	ERO25CKF1690	R:FXD MET FLM	169 OHM 1% 1/4W	29866	806620169
1041	1	ERO25CKF1741	R:FXD MET FLM	1.74K OHM 1% 1/4W	29866	806621174
1042	1	ERO25CKF1741	R:FXD MET FLM	1.74K OHM 1% 1/4W	29866	806621174

NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
1043	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%	13750	819905380
1044	1	ERO25CKF1001	R:FXD MET FLM	1K OHM 1% 1/4W	29866	806621100
1045	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
1047	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	807322180
1048	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	807322470
1049	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
1051	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W	29866	807323150
1052	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W	29866	807323150
1053	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
1054	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
1055	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100
1056	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	807323100
1061	1	ERO25CKF1021	R:FXD MET FLM	1.02K OHM 1% 1/4W	29866	806621102
1062	1	ERO25CKF1021	R:FXD MET FLM	1.02K OHM 1% 1/4W	29866	806621102
1063	1	CR19R4718	R:VAR CERMET	470 OHM 25% 1/2W	11154	819911010
1065	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
1066	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
1067	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
1068	1	ERG1ANJ512H	R:FXD MET OXD	5.1K OHM 5% 1W	29861	808542510
1069	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
1070	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
1071	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
1072	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W	29866	807324150
1073	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W	29866	807322680
1074	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	807321390
1075	1	ERG2ANJ153	R:FXD MET OXD	15K OHM 5% 2W	29861	808633150
1076	1	ERG1ANJ682H	R:FXD MET OXD	6.8K OHM 5% 1W	29861	808542680
1077	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100

PARTS LIST

A POWER ASSY DWG NO 4G204442 PAGE 9

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 1078	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	80732022
R 1079	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W	29866	80732010
R 1080	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	80732022
R 1081	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	80732110
R 1082	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W	29866	80732415
R 1083	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W	29866	80732268
R 1084	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W	29866	80732139
R 1084	1	ERD25TJ431V	R:FXD CARBON	430 OHM 5% 1/4W	29866	80732143
R 1085	1	ERG2ANJ153	R:FXD MET OXD	15K OHM 5% 2W	29861	80883315
R 1086	1	ERG1ANJ512H	R:FXD MET OXD	5.1K OHM 5% 1W	29861	80854251
R 1087	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	80732110
R 1088	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	80732022
R 1089	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W	29866	80732010
R 1090	1	ERG1ANJ682H	R:FXD MET OXD	6.8K OHM 5% 1W	29861	80854268
R 1092	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	80732110
R 1125	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W	29866	80732212
R 1127	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	80732310
R 1128	1	ERC14GK226	R:FXD COMP	22M OHM 10% 1/4W	29861	80326623
R 1129	1	HMG12HJ335	R:FXD MET GRZ	3.3M OHM 5% 1/2W	15959	80992018
R 1131	1	CR19R225B	R:VAR CERMET	2.2M OHM 25% 1/2W	11154	81991098
R 1132	1	HMG12HJ475	R:FXD MET GRZ	4.7M OHM 5% 1/2W	15959	80992014
R 1133	1	HMG12HJ155	R:FXD MET GRZ	1.5M OHM 5% 1/2W	15959	80992017
R 1134	1	HMG12HJ155	R:FXD MET GRZ	1.5M OHM 5% 1/2W	15959	80992017
R 1135	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W	29866	80732147
R 1136	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W	29866	80732315
R 1137	1	ERD25TJ203V	R:FXD CARBON	20K OHM 5% 1/4W	29866	80732320
R 1138	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	80732410
R 1139	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	80732410

PARTS LIST

A POWER ASSY DWG NO 4G204442 PAGE 10

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R 1145	1	CR19R223B	R:VAR CERMET	22K OHM 25% 1/2W	11154	81991103
R 1146	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	80732310
R 1147	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W	29866	80732282
R 1148	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	80732047
R 1151	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	80732047
R 1153	1	ERD25TJ392V	R:FXD CARBON	3.9K OHM 5% 1/4W	29866	80732239
R 1154	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	80732310
R 1155	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	80732218
R 1156	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	80732110
R 1157	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	80732222
R 1158	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	80732222
R 1161	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	80732322
R 1162	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	80732247
R 1163	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	80732322
R 1164	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W	29866	80732415
R 1165	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	80732115
R 1167	1	ERO25CKF3012	R:FXD MET FLM	30.1K OHM 1% 1/4W	29866	80662230
R 1168	1	ERO25CKF2052	R:FXD MET FLM	20.5K OHM 1% 1/4W	29866	80662220
R 1170	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W	29866	80732010
R 1171	1	ERD25TJ333V	R:FXD CARBON	33K OHM 5% 1/4W	29866	80732333
R 1172	1	ERD25TJ753V	R:FXD CARBON	75K OHM 5% 1/4W	29866	80732375
R 1173	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W	29866	80732218
R 1174	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	80732233
R 1175	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	80732312
R 1176	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	80732310
R 1177	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W	29866	80732010
R 1178	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	80732122

QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
1	CR19R473B	R:VAR CERMET	47K OHM 25% 1/2W	11154	819911020
1	CR19R224B	R:VAR CERMET	220K OHM 25% 1/2W	11154	819911000
1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	807323220
1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W	29866	807324150
1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	807323220
1	ERO25CKF9311	R:FXD MET FLM	931 OHM 1% 1/4W	29866	806621931
1	ERO25CKF5620	R:FXD MET FLM	562 OHM 1% 1/4W	29866	806620562
1	ERO50CKF9533	R:FXD MET FLM	953K OHM 1% 1/2W	29866	806643953
1	ERD25TJ132V	R:FXD CARBON	1.3K OHM 5% 1/4W	29866	807322130
1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	807321150
1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
1	ERO25CKF4120	R:FXD MET FLM	412 OHM 1% 1/4W	29866	806620412
1	ERO25CKF2871	R:FXD MET FLM	2.87K OHM 1% 1/4W	29866	806621287
1	ERO25CKF2551	R:FXD MET FLM	2.55K OHM 1% 1/4W	29866	806621255
1	CR29R471B	R:VAR CERMET	470 OHM 25% 1/2W	11154	819910970
1	ERO25CKF4120	R:FXD MET FLM	412 OHM 1% 1/4W	29866	806620412
1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W	29866	807323470
1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	807324100
1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
1	ERD25TJ333V	R:FXD CARBON	33K OHM 5% 1/4W	29866	807323330
1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330

QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
1	LM317T	IC:V RGLTR		10204	639991120
1	LM337T	IC:V RGLTR	-1.2V TO -37V 1.5A	10204	639990740
1	77V03	LAMP;NEON		12452	749900070
1	77V03	LAMP;NEON		12452	749900070
1	XZ074	DIODE:ZENER	7.4V 500MW	12385	775001830
1	XZ057	DIODE:ZENER	5.7V 500MW	12385	775001810
1	XZ074	DIODE:ZENER	7.4V 500MW	12385	775001830
1	75A007	FUSE CLIP		12352	891600350
1	75A007	FUSE CLIP		12352	891600350
1	SN5051	FUSE HOLDER	6A 250V	12352	891600230
1	SN5051	FUSE HOLDER	6A 250V	12352	891600230
1	75A007	FUSE CLIP		12352	891600350
1	75A007	FUSE CLIP		12352	891600350
1	4G614902-0XB	HOLDER:NEON		ORGNL	261449020
1	4G614902-0XB	HOLDER:NEON		ORGNL	261449020

PARTS LIST

A V OUT ASSY DWG NO 4G204443 PAGE 1

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
	2	R9D	HEAT SINK			
	1	3G614026-0CB	P5512A HEAT SINK:V-OUT		12167	7699001
	1	4G616694-0DB	P5220A CLAMP:TR-3		ORGNL	2613403
	1	4G670017-2DB	P5511A HEAT SINK		ORGNL	2614669
					ORGNL	2674001
C 508	1	ECV1ZW10X53T	C:VAR CER	10PF	29456	8341001
C 513	1	ECCW1H271KC5	C:FXD CER TC	270PF +-10% 50V NPO	29897	8220006
C 514	1	ECCW1H271KC5	C:FXD CER TC	270PF +-10% 50V NPO	29897	8220006
C 516	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO	29897	8220006
C 517	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO	29897	8220006
C 518	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO	29897	8220006
C 519	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	8220001
C 520	1	ECEA1CS101	C:FXD AL ELECT	100UF +30%-10% 16V	29880	8200183
C 521	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	8341002
C 522	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	8341002
C 523	1	ECCW1H181KC5	C:FXD CER TC	180PF +-10% 50V NPO	29897	8220006
C 524	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO	29897	8220006
C 525	1	ECQM1H682KZ	C:FXD FLM	6800PF 10% 50V	26550	8251268
C 526	1	ECQM1H102KZ	C:FXD FLM	1000PF 10% 50V	26550	8251210
C 541	1	ECV1ZW20X53T	C:VAR CER	20PF	29456	8341002
C 542	1	ECV1ZW10X53T	C:VAR CER	10PF	29456	8341001
C 545	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V	29897	8220001
C 550	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	8220001
C 570	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	8200183
C 571	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	8220001

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PARTS LIST

A V OUT ASSY DWG NO 4G204443 PAGE 2

REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
C 575	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	820018310
C 1230	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V	29897	823552190
C 1240	1	ECKW2H102MD	C:FXD CER HI-K	1000PF +-20% 500V	29897	823552100
C 1241	1	ECEA2CS010	C:FXD AL ELECT	1UF +30%-10% 160V	29880	820019050
C 1242	1	ECEA2CS010	C:FXD AL ELECT	1UF +30%-10% 160V	29880	820019050
CR 516	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 517	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 518	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 519	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 559	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 1238	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
CR 1241	1	MA150TA	DIODE:SI	100MA 35V	29269	773150010
E 501	1	2G401315	P5512A PC BOARD		ORGNL	972131500
J 501	1	EMCS1060L	CONNECTOR:PIN	10P ANGLE	29850	911003320
J 502	1	EMCS0360	CONNECTOR:PIN	PLUG 3P	29850	911003090
L *557	1	ERC12GK241	R:FXD COMP	240 OHM 10% 1/2W	29861	803461240
L *558	1	ERC12GK241	R:FXD COMP	240 OHM 10% 1/2W	29861	803461240
L 537	1	4G431289	P5511A COIL	PEAKING	ORGNL	857412890

ST

V OUT ASSY DWG NO 4G204443 PAGE 3

	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
	1	4G431289	P5511A COIL	PEAKING	ORGNL	857412890
	1	4G431289	P5511A COIL	PEAKING	ORGNL	857412890
	1	4G431289	P5511A COIL	PEAKING	ORGNL	857412890
	1	ELEH5R6KA	COIL:CHOKE	5.6UH	29910	854002700
	1	4G431051-1	P5410C COIL	VERTICAL PEAKING	ORGNL	857410511
	1	4G431051-1	P5410C COIL	VERTICAL PEAKING	ORGNL	857410511
	1	ELEH221KA	COIL:FXD	220UH 10%	29910	854002480
	1	ELEH221KA	COIL:FXD	220UH 10%	29910	854002480
	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ	12167	764202600
	1	V741	TSTR:SI NPN	PC 800MW	12167	769001570
	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ	12167	764125210
	1	V741	TSTR:SI NPN	PC 800MW	12167	769001570
	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ	12167	764125210
	1	V741	TSTR:SI NPN	PC 800MW	12167	769001570
	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ	12167	764125210
	1	V741	TSTR:SI NPN	PC 800MW	12167	769001570
	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ	12167	764125210
	1	2SC1509-RS	TSTR:SI NPN	PC:750MW FT:120MHZ	29269	764150910
	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910

LIST

V OUT ASSY DWG NO 4G204443 PAGE 4

ID	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ	29269	760838000
	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ	29269	764225800
	1	2SC1683	TSTR:SI NPN	PC:20W	29269	764168300
	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ	29269	764135910
	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ	29269	764225800
	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
	1	ERD25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	806628909
	1	ERD25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	806628909
	1	ERD25TJ911V	R:FXD CARBON	910 OHM 5% 1/4W	29866	807321910
	1	ERD25TJ911V	R:FXD CARBON	910 OHM 5% 1/4W	29866	807321910
	1	ERD25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W	29866	806628825
	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321120
	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	807321120
	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807320470
	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	807320470
	1	ERD25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W	29866	806620100
	1	ERD25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W	29866	806620100
	1	ERD25TJ301V	R:FXD CARBON	300 OHM 5% 1/4W	29866	807321300
	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	807322100
	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%	13750	819905340

PARTS LIST

A V OUT ASSY DWG NO 4G204443 PAGE 5

REF NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
R 521	1	ERD25CKF56R2	R:FXD MET FLM	56.2 OHM 1% 1/4W	29866	8066285
R 522	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%	13750	8199053
R 523	1	TM64K2PV2-53	R:VAR CERMET	5K OHM 20%	13750	8199053
R 524	1	TM64K2PV2-23	R:VAR CERMET	2K OHM 20%	13750	8199053
R 525	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%	13750	8199053
R 526	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%	13750	8199053
R 527	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	8073218
R 528	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	8073218
R 529	1	ERD25TJ680V	R:FXD CARBON	68 OHM 5% 1/4W	29866	8073206
R 530	1	ERD25TJ680V	R:FXD CARBON	68 OHM 5% 1/4W	29866	8073206
R 531	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W	29866	8073221
R 532	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W	29866	8073222
R 533	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	8073204
R 534	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	8073204
R 535	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	8073202
R 536	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	8073202
R 537	1	ERD25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	8066289
R 538	1	ERD25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W	29866	8066289
R 539	1	ERD25TJ430V	R:FXD CARBON	43 OHM 5% 1/4W	29866	8073204
R 541	1	ERD25CKF39R2	R:FXD MET FLM	39.2 OHM 1% 1/4W	29866	8066283
R 542	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%	13750	8199054
R 543	1	ERG2ANG131	R:FXD MET OXD	130 OHM 2% 2W	29861	8088211
R 544	1	ERG2ANG131	R:FXD MET OXD	130 OHM 2% 2W	29861	8088211
R 545	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W	29866	8073211
R 546	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	8073221
R 547	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W	29866	8073222
R 548	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W	29866	8073231
R 549	1	ERG1ANJ470	R:FXD MET OXD	47 OHM 5% 1W	29861	8085304
R 550	1	ERG1ANJ470	R:FXD MET OXD	47 OHM 5% 1W	29861	8085304

PARTS LIST

A V OUT ASSY DWG NO 4G204443 PAGE 6

REF NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
R 551	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	8073204
R 552	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W	29866	8073204
R 553	1	RP203AG131	R:FXD MET FLM	130 OHM 2% 2W	14371	8099032
R 554	1	RP203AG121	R:FXD MET FLM	120 OHM 2% 2W	14371	8099032
R 555	1	RP203AG121	R:FXD MET FLM	120 OHM 2% 2W	14371	8099032
R 556	1	RP203AG131	R:FXD MET FLM	130 OHM 2% 2W	14371	8099032
R 557	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W	29866	8073228
R 558	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	8073211
R 559	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	8073223
R 560	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W	29866	8073211
R 561	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	8073212
R 562	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W	29866	8073212
R 563	1	ERD25TJ751V	R:FXD CARBON	750 OHM 5% 1/4W	29866	8073217
R 564	1	ERD25TJ751V	R:FXD CARBON	750 OHM 5% 1/4W	29866	8073217
R 565	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	8073218
R 566	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	8073218
R 567	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W	29866	8073208
R 568	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W	29866	8073208
R 569	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	8073222
R 570	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	8073222
R 571	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W	29866	8073231
R 572	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W	29866	8073221
R 573	1	ERD25TJ560V	R:FXD CARBON	56 OHM 5% 1/4W	29866	8073205
R 574	1	ERD25TJ560V	R:FXD CARBON	56 OHM 5% 1/4W	29866	8073205
R 575	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	8073224
R 576	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	8073224
R 577	1	ERD25TJ563V	R:FXD CARBON	56K OHM 5% 1/4W	29866	8073235
R 578	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W	29866	8073231
R 579	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W	29866	8073224

T LIST

V OUT ASSY DWG NO 4G204443 PAGE 7

D	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
81	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W	29866	807320100
82	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W	29866	807320100
83	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
84	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	807320220
85	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
230	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W	29866	807322220
234	1	ERC14GK335	R:FXD COMP	3.3M OHM 10% 1/4W	29861	803265330
235	1	ERD25TJ563V	R:FXD CARBON	56K OHM 5% 1/4W	29866	807323560
236	1	ERX1ANJ2R2	R:FXD MET OXD	2.2 OHM 5% 1W	29861	808528220
238	1	ERD25TJ274V	R:FXD CARBON	270K OHM 5% 1/4W	29866	807324270
239	1	ERD25CKF1912	R:FXD MET FLM	19.1K OHM 1% 1/4W	29866	806622191
240	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	807321100
241	1	ERD25CKF3921	R:FXD MET FLM	3.92K OHM 1% 1/4W	29866	806621392
242	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W	29866	807322330
21	1	ERTD2FHL102S	THERMISTOR	1K OHM 15%	29890	809900470

PARTS LIST

A		MAIN FRAME ASSY	DWG NO 4G204444		PAGE 1	
REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
	6	001P1100	CONNECTOR:PIN		17194	9110035
	3	350550-1	CONNECTOR:PIN		14441	9111035
	10	61173-1	CONNECTOR	MATE-N-LOK CONTACT SOC	14441	9111007
C 011	1	ECCF1H180KC	C:FXD CER TC	18PF +-10% 50V NPO	29897	82200045
C 012	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V	14442	82540010
C 013	1	ECCF1H100FC	C:FXD CER TC	10PF +-1.0PF 50V NPO	29897	82200044
C 021	1	ECCF1H180KC	C:FXD CER TC	18PF +-10% 50V NPO	29897	82200045
C 022	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V	14442	82540010
C 023	1	ECCF1H100FC	C:FXD CER TC	10PF +-1.0PF 50V NPO	29897	82200044
C 803	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V	29897	82353068
C 804	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V	29897	82353068
C 805	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V	29897	82353068
C 1286	1	ECQP1103FZ	C:FXD FLM	0.01UF 1% 100V	26550	82559017
C 1288	1	ECQP1103FZ	C:FXD FLM	0.01UF 1% 100V	26550	82559017
C 1291	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V	29897	82200013
C 1292	1	ECEA1CS100	C:FXD AL ELECT	10UF +30%-10% 16V	29880	82001831
DL 501	1	74W010	DELAY LINE	DIL 120NS 186 OHM	15360	85410125
DS 154	1	AR4133S	LED	RED	17194	77600104
DS 254	1	AR4133S	LED	RED	17194	77600104

PARTS LIST

A		MAIN FRAME ASSY	DWG NO 4G204444		PAGE 2	
REF NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
DS 511	1	AR4133S	LED	RED	17194	77600104
DS 812	1	BG4133S	LED	GREEN	17194	77600105
DS 1299	1	SY403DA	LED	UMBER	12167	77600058
E 841	1	D12	CONTROL KNOB		16380	81990463
E 1001	1	2G401285-1	P5512A PC BOARD		ORGNL	97212851
J 011	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK	12402	91240020
J 021	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK	12402	91240020
J 101	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	91100315
J 201	1	EMCS1060	CONNECTOR:PIN	PLUG 10P	29850	91100335
J 202	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	91100315
J 400	1	EMCS1060L	CONNECTOR:PIN	10P ANGLE	29850	91100332
J 498	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK	12402	91240020
J 601	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK	12402	91240020
J 615	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE	29850	91100333
J 701	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK	12402	91240020
J 800	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE	29850	91100333
J 801	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE	29850	91100333

LIST

MAIN FRAME ASSY DWG NO 4G204444 PAGE 3

ID	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
02	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE	29850	911003330
03	1	EMCS1060L	CONNECTOR:PIN	10P ANGLE	29850	911003320
04	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE	29850	911003330
05	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
06	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
12	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
15	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE	29850	911003330
16	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
51	1	BNC071	CONNECTOR:COAX	BNC PLUG	12573	912401040
91	1	BNC071	CONNECTOR:COAX	BNC PLUG	12573	912401040
152	1	BNC071	CONNECTOR:COAX	BNC PLUG	12573	912401040
200	1	CM3	CONNECTOR	PWR JACK 3P	15360	911001791
252	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
253	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
254	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
255	1	EMCS0560	CONNECTOR:PIN	PLUG 5P	29850	911003150
290	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911001580
181	1	4G431295	P5220A COIL	ROTATION	ORGNL	857412950
182	1	4G431322	P5512A COIL		ORGNL	857413220
01	1	EMCB0530A56V	CONNECTOR	5P L=300MM	29850	911002660

LIST

MAIN FRAME ASSY DWG NO 4G204444 PAGE 4

ID	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
201	1	EMCB1030A56V	CONNECTOR	10P L=300MM	29850	911002710
202	1	EMCB0530A51	CONNECTOR	5P L=300MM	29850	911002630
500	1	EMCB1050A56V	CONNECTOR	10P L=500MM	29850	911002990
503	1	EMCB1050A56V	CONNECTOR	10P L=500MM	29850	911002990
504	1	EMCB0520A56V	CONNECTOR	5P L=200MM	29850	911002650
505	1	EMCB0550A56V	CONNECTOR		29850	911002970
507	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911100820
508	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911100820
509	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911100820
319	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911100820
501	1	EMCB1010A56V	CONNECTOR	10P L=100MM	29850	911002690
502	1	EMCB0370A51	CONNECTOR	3P L=700MM	29850	911003510
615	1	EMCB0540A56V	CONNECTOR	5P L=400MM	29850	911002670
800	1	EMCB0520A56V	CONNECTOR	5P L=200MM	29850	911002650
801	1	EMCB0550A56V	CONNECTOR		29850	911002970
802	1	EMCB0520A56V	CONNECTOR	5P L=200MM	29850	911002650
804	1	EMCB0510A56V	CONNECTOR	5P L=100MM	29850	911002640
805	1	EMCB0510A56V	CONNECTOR	5P L=100MM	29850	911002640
806	1	EMCB0510A56V	CONNECTOR	5P L=100MM	29850	911002640
812	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911100820
904	1	EMCB0530A56V	CONNECTOR	5P L=300MM	29850	911002660
906	1	EMCB1030A56V	CONNECTOR	10P L=300MM	29850	911002710
907	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911100820
908	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	911100820

PARTS LIST

A MAIN FRAME ASSY DWG NO 4G204444 PAGE 5

REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
P	909	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	9111008
P	910	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	9111008
P	911	1	EMCB0530A56V	CONNECTOR	5P L=300MM	29850	9110026
P	912	1	EMCB0540A56V	CONNECTOR	5P L=400MM	29850	9110026
P	913	1	EMCB0530A56V	CONNECTOR	5P L=300MM	29850	9110026
P	918	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH	14441	9111008
P	1106	1	1-480700-0	CONNECTOR	3P	14441	9111035
P	1107	1	EMCB0520A56V	CONNECTOR	5P L=200MM	29850	9110026
P	1202	1	EMCB0530A56V	CONNECTOR	5P L=300MM	29850	9110026
P	1203	1	EMCB0540A56V	CONNECTOR	5P L=400MM	29850	9110026
P	1205	1	EMCB0550A56V	CONNECTOR		29850	9110029
P	1209	1	163690-3	CONNECTOR:PIN	CIS 5P 2.5PITCH	14441	9111012
P	1210	1	1-480285-0	CONNECTOR	MATE-N-LOK 10P PLUG	14441	9111013
Q	960	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ	29269	7642258
Q	1280	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	7605641
Q	1285	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	7605641
Q	1286	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ	29269	7605641
R	011	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	8073202
R	012	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W	29866	8073207
R	021	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W	29866	8073202
R	022	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W	29866	8073207

PARTS LIST

A MAIN FRAME ASSY DWG NO 4G204444 PAGE 6

REF	NO	QTY	PART NO	DESCRIPTION		MFR/DBR	CODE-NO
R	179	1	EWKENA506B52	R:VAR CARBON	500 OHMX2 20% 1/5W	29871	8129005
R	279	1	EWKZ03Z12B52	R:VAR CARBON		29871	8129006
R	499	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	8073284
R	511	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W	29866	8073222
R	588	1	82R12	R:VAR CARBON	100K OHMX2 20% 1/10W	11154	8199109
R	638	1	82R14	R:VAR CARBON	20K OHMX2 20% 1/10W	11154	8199109
R	738	1	82R14	R:VAR CARBON	20K OHMX2 20% 1/10W	11154	8199109
R	812	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W	29866	8073216
R	841	1	3540382-502	P5530A R:VAR WW	5K OHM 5% LIN 0.25%	14412	8199046
R	843	1	ERD25TJ433V	R:FXD CARBON	43K OHM 5% 1/4W	29866	8073234
R	844	1	82R20	R:VAR CARBON	100K+20K OHM 20% 1/20W	11154	8199109
R	916	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W	29866	8073211
R	917	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	8073232
R	968	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W	29866	8073241
R	1001	1	82R13	R:VAR CARBON	20K OHMX3 20% 1/10W	11154	8199109
R	1140	1	82R12	R:VAR CARBON	100K OHMX2 20% 1/10W	11154	8199109
R	1143	1	82R11	R:VAR CARBON	10K OHMX2 20% 1/10W	11154	8199109
R	1180	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W	29866	8073232
R	1181	1	82R19	R:VAR CARBON	20K OHMX2 20% 1/10W	11154	8199109

LIST

MAIN FRAME ASSY DWG NO 4G204444 PAGE 7

	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
15	1	82R18	R:VAR MET GRZ	100 OHMX2 20% 1.5W	11154	819910940
80	1	ERO25CKF60R4	R:FXD MET FLM	60.4 OHM 1% 1/4W	29866	806628604
81	1	ERO25CKF1691	R:FXD MET FLM	1.69K OHM 1% 1/4W	29866	806621169
82	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%	13750	819905440
83	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W	29866	807323270
84	1	ERO25CKF3161	R:FXD MET FLM	3.16K OHM 1% 1/4W	29866	806621316
86	1	ERO25CKF3921	R:FXD MET FLM	3.92K OHM 1% 1/4W	29866	806621392
87	1	ERO25CKF1433	R:FXD MET FLM	143K OHM 1% 1/4W	29866	806623143
88	1	ERO25CKF1433	R:FXD MET FLM	143K OHM 1% 1/4W	29866	806623143
89	1	ERO25CKF3921	R:FXD MET FLM	3.92K OHM 1% 1/4W	29866	806621392
91	1	ERO25CKF2801	R:FXD MET FLM	2.80K OHM 1% 1/4W	29866	806621280
92	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W	29866	807328470
99	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W	29866	807321820
11	1	79S29	P5230A LEVER SW	AC-DC	11154	875310130
21	1	79S29	P5230A LEVER SW	AC-DC	11154	875310130
01	1	82S04	PUSHB SW		11154	873004590
01	1	82S12	PUSHB SW		11154	873004570
01	1	82S13	PUSHB SW		11154	873004580
201	1	ESB70294	PUSHB SW	DPDT 3A-250V AC	29810	873004170
202	1	ESD3921T	LEVER SW		29810	872001310
203	1	ESD3921T	LEVER SW		29810	872001310

T LIST

MAIN FRAME ASSY DWG NO 4G204444 PAGE 8

NO	QTY	PART NO	DESCRIPTION		MFR/DER	CODE-NO
1201	1	3G430486-1	P5512A TRNSFORMER		ORGNL	850004241
1100	1	150CDB31	CRT		29254	751000550
154	1	GD-4-505	LED SOCKET		17194	903500750
254	1	GD-4-505	LED SOCKET		17194	903500750
511	1	GD-4-505	LED SOCKET		17194	903500750
812	1	GD-4-505	LED SOCKET		17194	903500750
1211	1	EQ003-25009A	LAMP SOCKET		17194	903500760
1212	1	EQ003-25009A	LAMP SOCKET		17194	903500760
1213	1	EQ003-25009A	LAMP SOCKET		17194	903500760
1201	1	FEU031.1653	FUSE HOLDER	SEV,VDE,SEMKO,UL AND CSA	14385	891600420
1202	1	FEK031.1663	FUSE HOLDER CAP	5X20MM FUSE	14385	891600430

PARTS LIST

A			CABLE,ACCESSORY	DWG NO 4G204989		PAGE 1
REF NO		QTY	PART NO	DESCRIPTION		MFR/DBR
		2	ERL14P905110	R:FIX MET GRZ	9M OHM 110PF	29860
		2	1C026-11	C:FXD CER TC	11PF 5% 500V	13977
E	001	1	VQ057S21P	10:1 - 1:1 PROBE 1.5M		
E	002	1	VQ057S21P	10:1 - 1:1 PROBE 1.5M		
F	1201	1	IEC1AT	FUSE : TIME LAG	1A 250V 20MM	14385
F	1202	1	IEC1AT	FUSE : TIME LAG	1A 250V 20MM	14385
MP	401	1	MEP5512P-0	INSTRUCTION MANUAL		
MP	403	1	4G601210-0W	ADAPTER:BNC CONN		ORGNL
MP	404	1	4G601210-0W	ADAPTER:BNC CONN		ORGNL
MP	405	1	4G634279-0W	P5512P LABEL:IDENT		ORGNL
MP	411	1	4G712667-0W	P6801P LABEL:PC-UPPER		ORGNL
MP	412	1	3G710833-0W	P6801P LABEL:PC-L		ORGNL
MP	413	1	3G710833-0W	P6801P LABEL:PC-L		ORGNL
MP	414	1	3G710833-0W	P6801P LABEL:PC-L		ORGNL
P	1200	1	33-76B-2M	CABLE:PWR (UL,CSA)	125V 7A	15360
V	**	1	BQ041-23303A	LAMP:INCD	6V 0.2A	17194
V	1211	1	BQ041-23303A	LAMP:INCD	6V 0.2A	17194
V	1212	1	BQ041-23303A	LAMP:INCD	6V 0.2A	17194
V	1213	1	BQ041-23303A	LAMP:INCD	6V 0.2A	17194

PARTS LIST

A	Q030G ACCSSRY BOX		DWG NO 4G300670	PAGE 1	
REF NO	QTY	PART NO	DESCRIPTION	MFR/DBR	CODE-NO
	1	VQ-030G	VQ-030G	11410	27104000
	1	4G633861-0J	8U11 LABAL	ORGNL	26343861

ST

MECHA DWG NO 4G302691 PAGE 1

QTY	PART NO	DESCRIPTION	MFR/DBR	CODE-NO
1	A66A-82M31	P5512A FRAME,FRONT	17955	264020340
4	R76G-992	FOOT-992	13952	270031890
1	2G580698-1FH	P5512A PLATE,REAR	ORGNL	258206981
1	2G590596-2WB	P5512A FRAME,LOWER RH	ORGNL	259205962
1	2G590597-2WB	P5512A FRAME,LOWER LH	ORGNL	259205972
1	2G590598-0WB	P5512A FRAME,UPPER RH	ORGNL	259205980
1	2G590599-1EB	P5512A CHASSIS,MID	ORGNL	259205991
1	2G611521-0WD	P5512A CASE:HI-TENS	ORGNL	261215210
1	2G611522-0YB	P5512A SUPPORTER:CRT	ORGNL	
1	2G630581-0A	P5512A PANEL	ORGNL	263205810
1	2G650503-0L	P5512A SHIELD,PIPE	ORGNL	265205030
1	2G760518-0A	P5512A ESCUTCHEON	ORGNL	276205180
1	3G530514-0WA	P5512A DIAL:SWEEP	ORGNL	253305140
1	3G590648-0BB	P5512A FRAME,UPPER LH	ORGNL	259306480
1	3G590649-1EB	P5512A CHASSIS:BEAM	ORGNL	259306491
1	3G614027-1FB	P5512A CHASSIS:CRT	ORGNL	261340271
1	3G614028-0ED	P5512A COVER:HI-TENS	ORGNL	261340280
1	3G614029-1CB	P5512A SHIELD:V-H	ORGNL	261340291
1	3G710402-0N	9551A BAG:PACKING	ORGNL	271304020
4	3G760519-0G	P5220A FOOT,REAR	ORGNL	276305190
1	3G760520-1H	P5220A SHAFT:POWER	ORGNL	276305201
6	3G760544-0C	KNOB:LEVER SWITCH,J19-U	ORGNL	276305440
1	3G760545-0C	KNOB,14D8AF	ORGNL	276305450
1	4G530513-1K	P5220A FILTER:CRT	ORGNL	253405131
1	4G540024-0B	P385B SPRING	ORGNL	254400240
1	4G540129-1FB	P5520A SPRING:GRD-B	ORGNL	254401291
1	4G540564-0F	P5512A SPRING:FILTER	ORGNL	254405640
1	4G580602-0AF	P5512A COVER:CRT	ORGNL	258406020
1	4G601087-0W	P5230A TERMINAL:CAL	ORGNL	260410870
1	4G601516-0W	TERMINAL-F:GRD	ORGNL	260415160

SLIST

MECHA DWG NO 4G302691 PAGE 2

QTY	PART NO	DESCRIPTION	MFR/DBR	CODE-NO
1	4G615528-2XB	P5503A BAND:CRT	ORGNL	261455282
1	4G615880-0YB	P5230A TERMINAL:CALIB	ORGNL	
1	4G617077-0BB	P5512A HOLDER:PWR SWITCH	ORGNL	261470770
1	4G617078-0BB	P5512A BRACKET:V-MODE	ORGNL	261470780
1	4G617079-0EB	P5512A HOLDER:SHIELD V-H	ORGNL	261470790
2	4G617080-0BB	P5512A PLATE:BNC GRD	ORGNL	261470800
2	4G617082-0BB	P5512A HOLDER:POWER PCB	ORGNL	261470820
1	4G617083-0EB	P5512A HOLDER:V-PRE PCB	ORGNL	261470830
1	4G617084-0WB	P5512A HOLDER:LAMP	ORGNL	261470840
1	4G617086-0AB	P5512A PLATE:SLIDE SW	ORGNL	261470860
2	4G617098-0DB	P5512A PLATE:BNC GRD-2	ORGNL	261470980
1	4G617099-0AB	P5512A COVER:INPUT	ORGNL	261470990
1	4G633135-0L	M8125 LABEL,HI-TENSION	ORGNL	263431350
1	4G650515-1M	P5512A SHIELD:CRT	ORGNL	265405151
1	4G702079-0A	P5410A WASHER:BNC,INS	ORGNL	270420790
1	4G702521-0G	P5703A INSULATOR	ORGNL	270425210
1	4G702652-1G	P5512A INSULATION:POWER	ORGNL	270426521
1	4G702653-0G	P5512A COVER:HI-VOLTAGE	ORGNL	270426530
1	4G712047-0N	9549A BAG:PACKING	ORGNL	271420470
1	4G712649-0N	BAG:ACCESSORY,PLAIN	ORGNL	271426490
2	4G720153-0FB	P562A BOSS 3MX5-1.5	ORGNL	
1	4G720519-0BB	TERMINAL-F:BODY	ORGNL	
1	4G720520-0JB	TERMINAL-F:NUT-1	ORGNL	
1	4G720521-0KB	TERMINAL-F:NUT-2	ORGNL	
1	4G720563-0FB	P5512A INSERTION:KNOB	ORGNL	272405630
5	4G720564-0F	P5512A BOSS M3X15.5-2	ORGNL	
1	4G720565-0F	P5512A BOSS M3X5-1.2	ORGNL	
1	4G720570-1F	P5512A BOSS M3X17-1.5	ORGNL	
1	4G760006-1K	D9 BUSHING:RUBBER	ORGNL	276400061
1	4G760086-1H	P5410A SPACER:BNC,INS	ORGNL	276400861

PARTS LIST

A MECHA DWG NO 4G302691 PAGE 3

REF NO	QTY	PART NO	DESCRIPTION	MFR/DBR	CODE-NO
	2	4G760170-0X	P5503A RUBBER,HLDR:CRTA	ORGNL	2764017
	1	4G760171-0X	P5503A RUBBER,HLDR:CRT-B	ORGNL	2764017
	1	4G760219-0C	KNOB,42T9A	ORGNL	2764021
	1	4G760555-0C	CAP,D23 KNOB-U	ORGNL	
	1	4G760556-0C	KNOB,23C6U	ORGNL	2764055
	1	4G780524-0N	P5220A GUARD:CRT	ORGNL	2784052
A-INT	1	4G760122-0C	KNOB,10D3U	ORGNL	2764012
ATT	1	3G760038-0C	KNOB,23F6A	ORGNL	2763003
B-INT	1	3G760037-0C	KNOB,14D6A	ORGNL	2763003
B-W	1	3G760041-0C	PUSHBUTTON,5X6 GREEN	ORGNL	27630041
FINE	1	4G760122-0C	KNOB,10D3U	ORGNL	2764012
FOCUS	1	3G760515-0C	KNOB,10N6AF	ORGNL	2763051
FRAME	1	R76K-B312250	BUSHING-B312-250	13197	2700310
H-PSI	1	3G760037-0C	KNOB,14D6A	ORGNL	2763003
H-VAR	1	4G760122-0C	KNOB,10D3U	ORGNL	2764012
HMODE	1	3G760042-0C	PUSHBUTTON,5X6 BLACK	ORGNL	2763004
LEVEL	1	4G760506-0C	KNOB:14N6A	ORGNL	2764050
POWER	1	R76JLCBS14S	SUPPORT LCBS-14S:PCB	16355	2700323
POWER	1	4G644146-1AB	SPACER 3X25	ORGNL	2644414
QUAD	1	3G760041-0C	PUSHBUTTON,5X6 GREEN	ORGNL	27630041
SCALE	1	3G760515-0C	KNOB,10N6AF	ORGNL	2763051
SEPAR	1	3G760515-0C	KNOB,10N6AF	ORGNL	2763051
SINGL	1	3G760041-0C	PUSHBUTTON,5X6 GREEN	ORGNL	27630041
V-OUT	1	4G644135-0AB	P513A SPACER 3X20	ORGNL	2644413
V-PS4	1	3G760515-0C	KNOB,10N6AF	ORGNL	2763051
V-VAR	1	4G760123-0C	KNOB,12D3U	ORGNL	2764012
VMODE	1	3G760042-0C	PUSHBUTTON,5X6 BLACK	ORGNL	2763004

LIST

COVER DWG NO 4G302692 PAGE 1

QTY	PART NO	DESCRIPTION	MFR/DBR	CODE-NO
2	R55K-82M20	HANDLE STOPPER SA-105	12259	264030490
1	2G550503-0J	P5512A HANDLE ASSY	ORGNL	255205030
1	2G580696-0CF	P5512A COVER,UPPER	ORGNL	25820696O
1	2G580697-0CH	P5512A COVER,BOTTOM	ORGNL	25820697O
1	3G670573-0K	P5512A HANDLE	ORGNL	
BAL 1	R76K-SB375-4	BUSHING-SB-375-4	13197	270031080
IN 1	R76K-SB375-4	BUSHING-SB-375-4	13197	270031080

LIST

Q035J10 HOOD DWG NO 4G302693 PAGE 1

QTY	PART NO	DESCRIPTION	MFR/DBR	CODE-NO
1	A78P-82M18	Q035J10 VIEWING HOOD	12251	270032330

PARTS LIST

A PACKAGE DWG NO 4G302694

REF NO	QTY	PART NO	DESCRIPTION	MFR/DBR CODE-NO
	1	2G710214-1E	KP-580 CUSHION,FRONT	ORGNL
	1	2G710215-1E	KP-580 CUSHION,REAR	ORGNL
	1	4G712145-1A	KP-580 CARTON BOX	ORGNL 27142145
	1	4G712622-0J	KP-580-B PAD	ORGNL
	1	580BJ1P5512A	P5512A PACKING KIT	11551 29580201

VP-5512P CIRCUIT DIAGRAMS

	Page
OVERALL INTERCONNECTION A1	1
INPUT & ATTENUATOR A2 -(1)	2
V PRE AMP A2 -(2)	3
V PRE SWITCHING A2 -(3)	4
TRIGGER PICKOFF AMP A2 -(4) TRIGGER AMP A3 -(1)	5
V MODE SELECTOR A4 V MODE CIRCUIT A2 -(5)	6
V OUT AMP A5 -(1)	7
TRIGGER AMP A3 -(2)	8
H MODE A6 -(1) SWEEP A3 -(3)	9
TIMING SELECTOR A7 TIMING CIRCUIT A3 -(4)	10
H MODE A6 -(2) ALT SWEEP A3 -(5)	11
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CALIBRATOR A10 POWER SUPPLY A8 -(3)	14
V OUT AMP A5 -(2) POWER SUPPLY A8 -(4)	15

NOTES

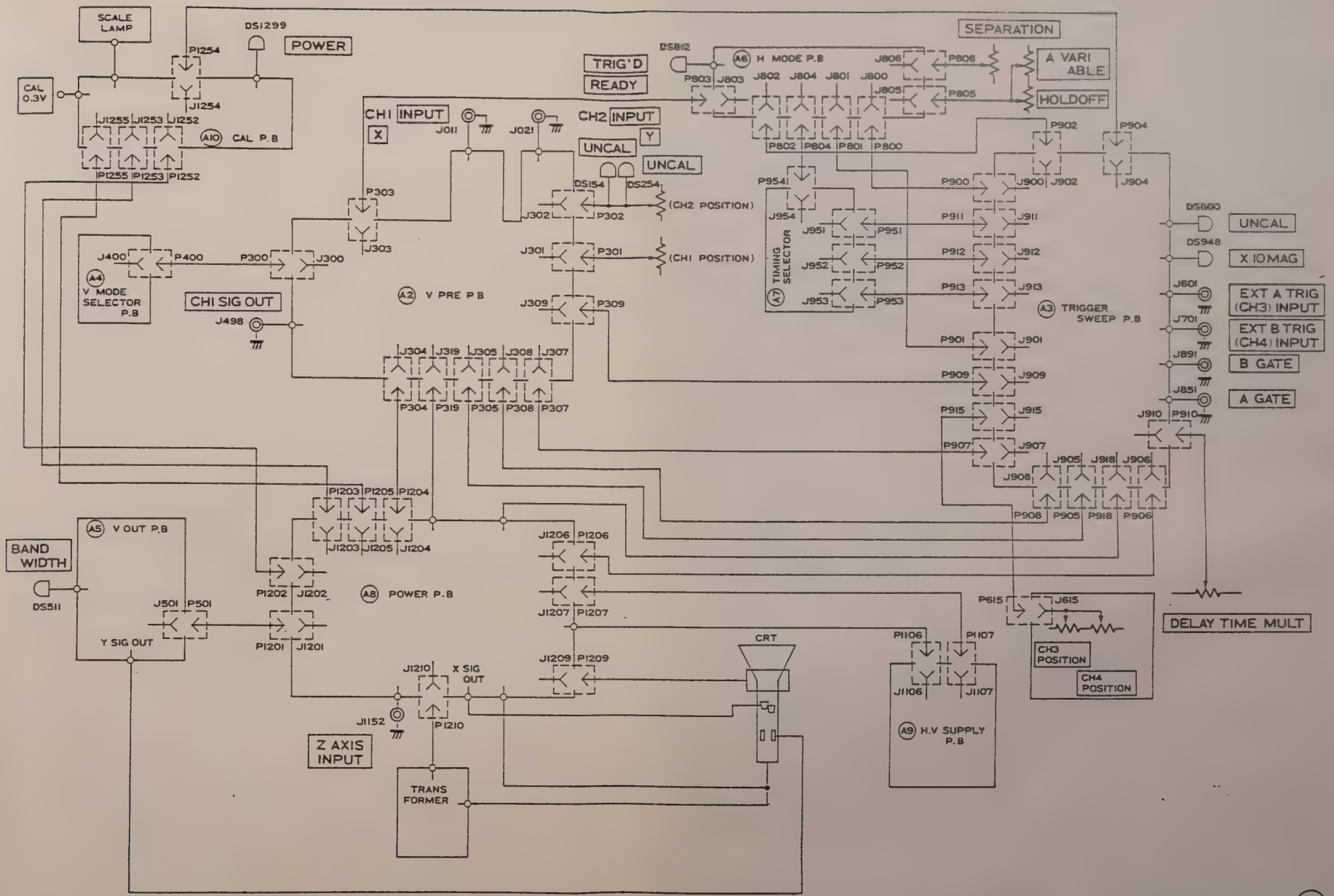
- WHEN THE CIRCUIT IS DIVIDED INTO SOME UNITS AND AN IDENTIFYING NUMBER IS ASSIGNED TO EACH UNIT, REFERENCE DESIGNATORS IN EACH CIRCUIT DIAGRAM ARE GIVEN IN ABBREVIATED FORM. PREFIX WITH EACH IDENTIFYING NUMBER FOR COMPLETE DESCRIPTION.
  EXAMPLES: A1 C1, A6 R3.

- RESISTANCE VALUES IN OHMS AND CAPACITANCE IN PICOFARADS(FROM 1 TO 9,999) OR MICROFARADS (FROM 0.01 TO 0.99) UNLESS OTHERWISE NOTED.

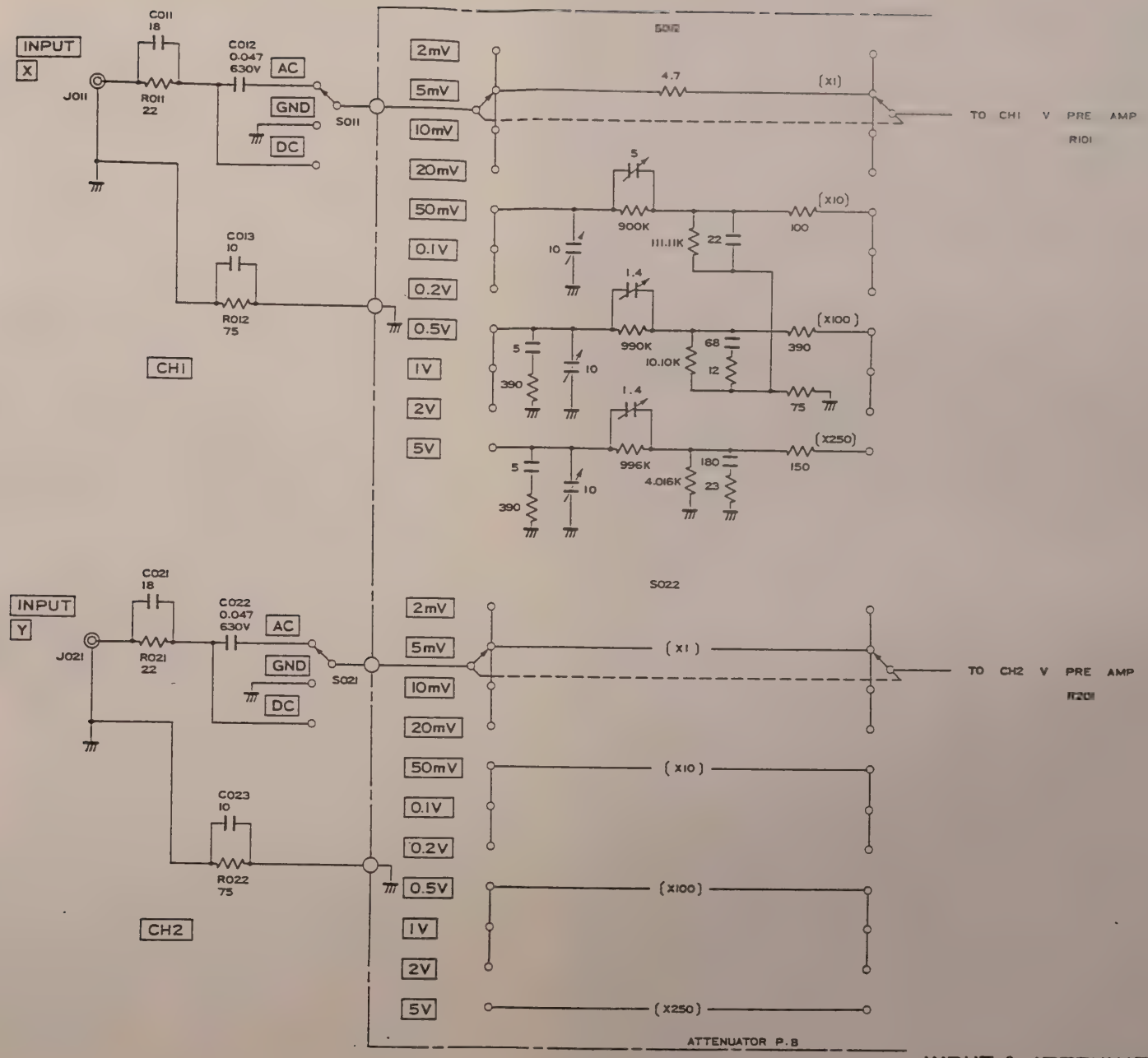
- POWER RATINGS AND RESISTANCE TOLERANCES OF FIXED RESISTORS ARE 1/8 WATTS AND ±5 % UNLESS OTHERWISE NOTED.

- ¤ FACTORY REWORKED OR CHECKED COMPONENTS.

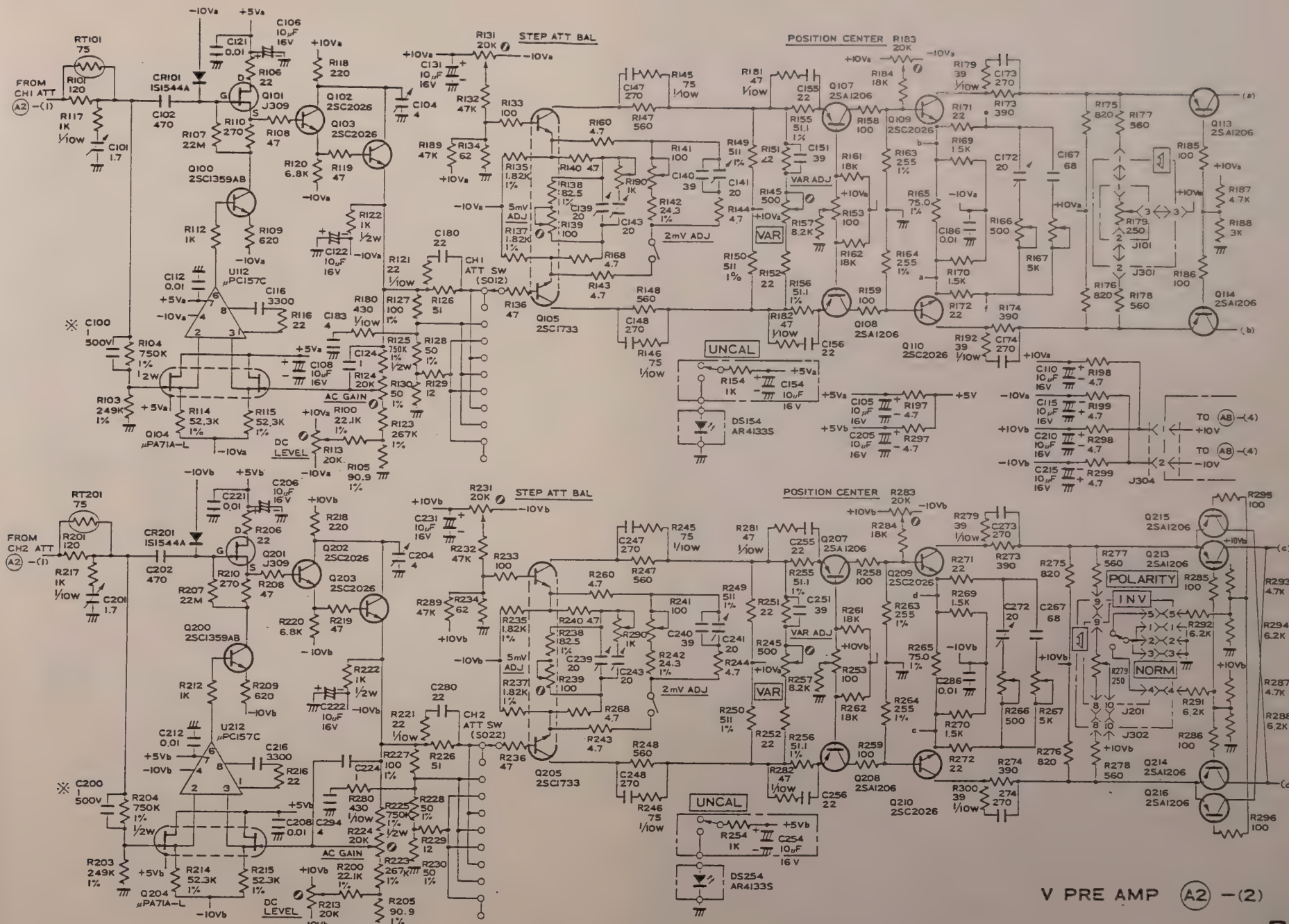
- ✱ VALUE SELECTED AT FACTORY. NOMINAL VALUE SHOWN.



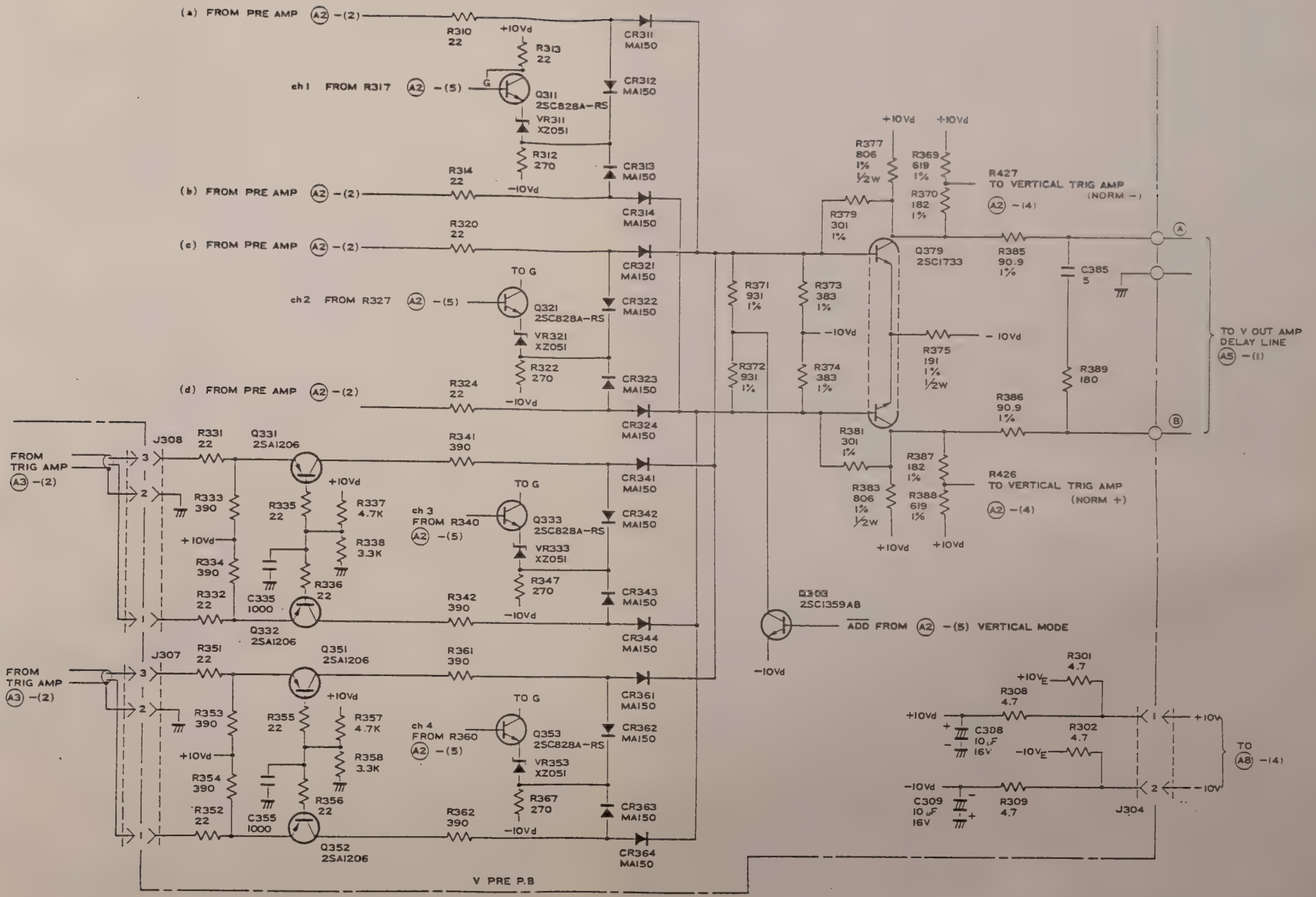
OVERALL INTERCONNECTION (A1)



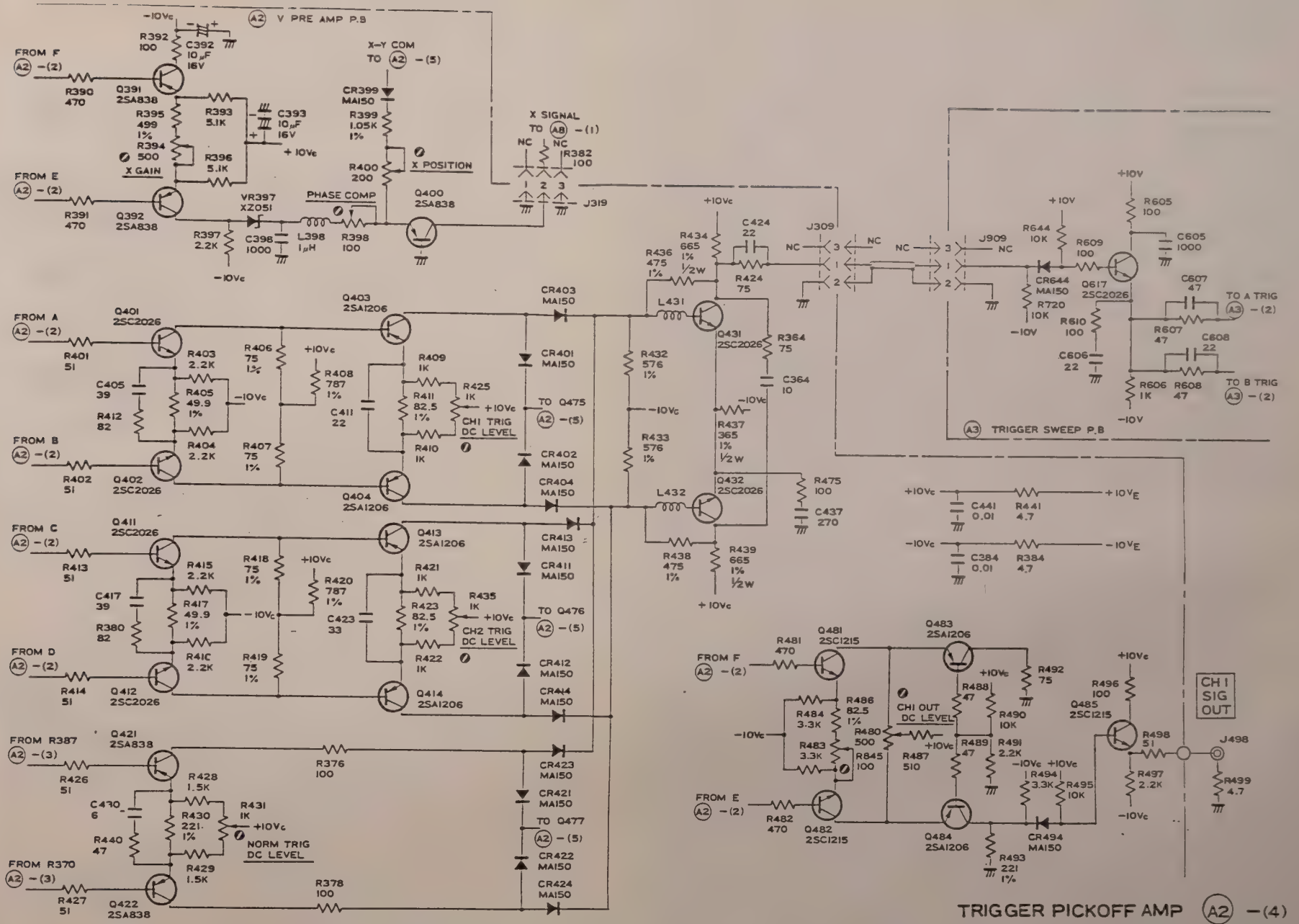
INPUT & ATTENUATOR (A2) – (1)


FROM CH1 ATT
FROM CH2 ATT
STEP ATT BAL
POSITION CENTER
AC GAIN
DC LEVEL
CH1 ATT SW (S012)
CH2 ATT SW (S022)
2mV ADJ
5mV ADJ
VAR ADJ
VAR
UNCAL
POLARITY
INV
NORM
TO (A8)-(4) +10V
TO (A8)-(4) -10V
Q100 2SC1359AB
Q101 J309
Q102 2SC2026
Q103 2SC2026
Q104 μPA71A-L
U112 μPC157C
Q105 2SC1733
Q107 2SA1206
Q108 2SA1206
Q109 2SC2026
Q110 2SC2026
Q113 2SA1206
Q114 2SA1206
Q200 2SC1359AB
Q201 J309
Q202 2SC2026
Q203 2SC2026
Q204 μPA71A-L
U212 μPC157C
Q205 2SC1733
Q207 2SA1206
Q208 2SA1206
Q210 2SC2026
Q213 2SA1206
Q214 2SA1206
Q216 2SA1206
DS154 AR4133S
DS254 AR4133S
J101
J301
J201
J302
J304

V PRE AMP (A2) -(2)

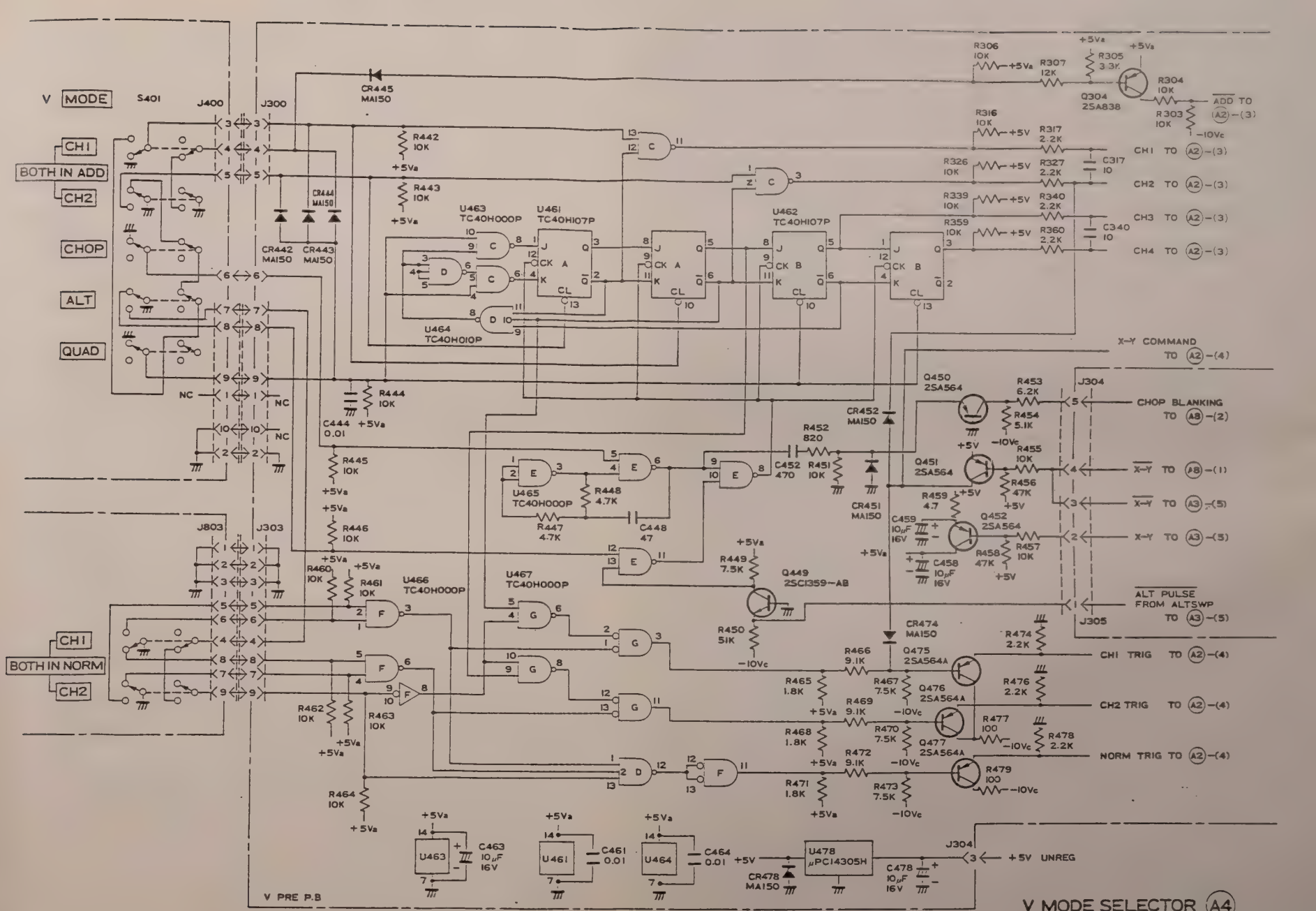


V PRE SWITCHING A2 - (3)



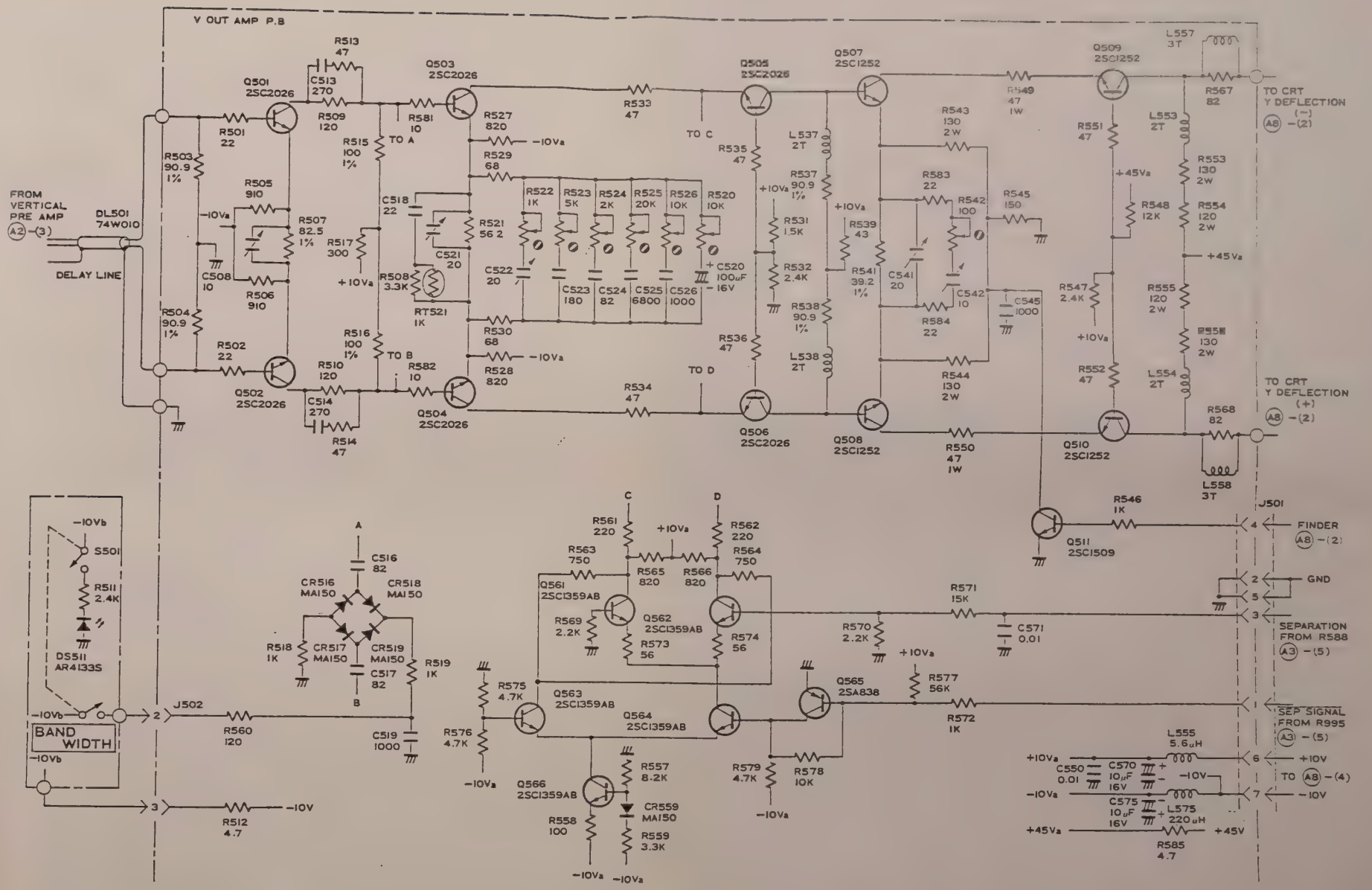
TRIGGER PICKOFF AMP (A2) -(4)

TRIGGER AMP (A3) -(1)

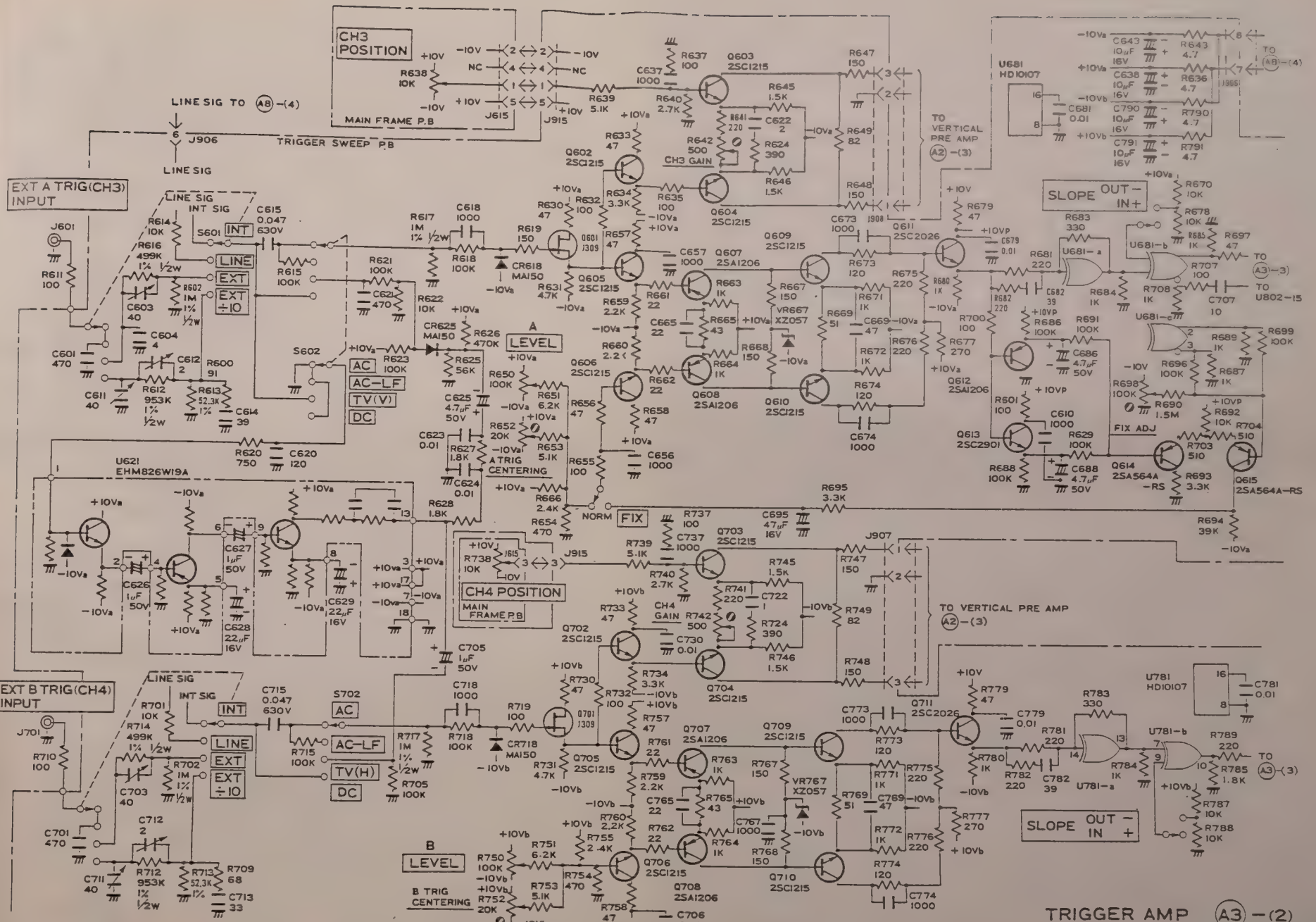


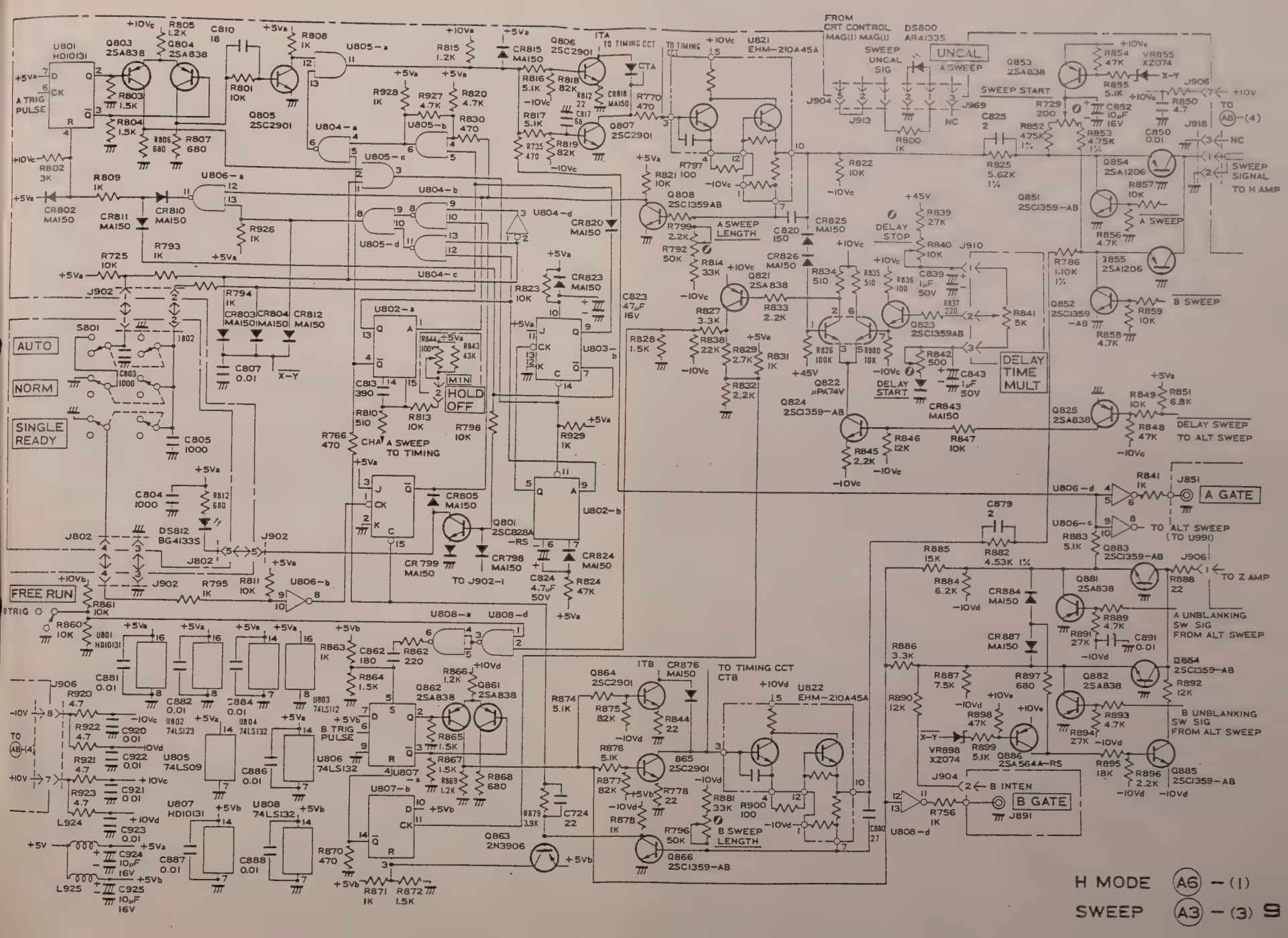
V MODE SELECTOR (A4)

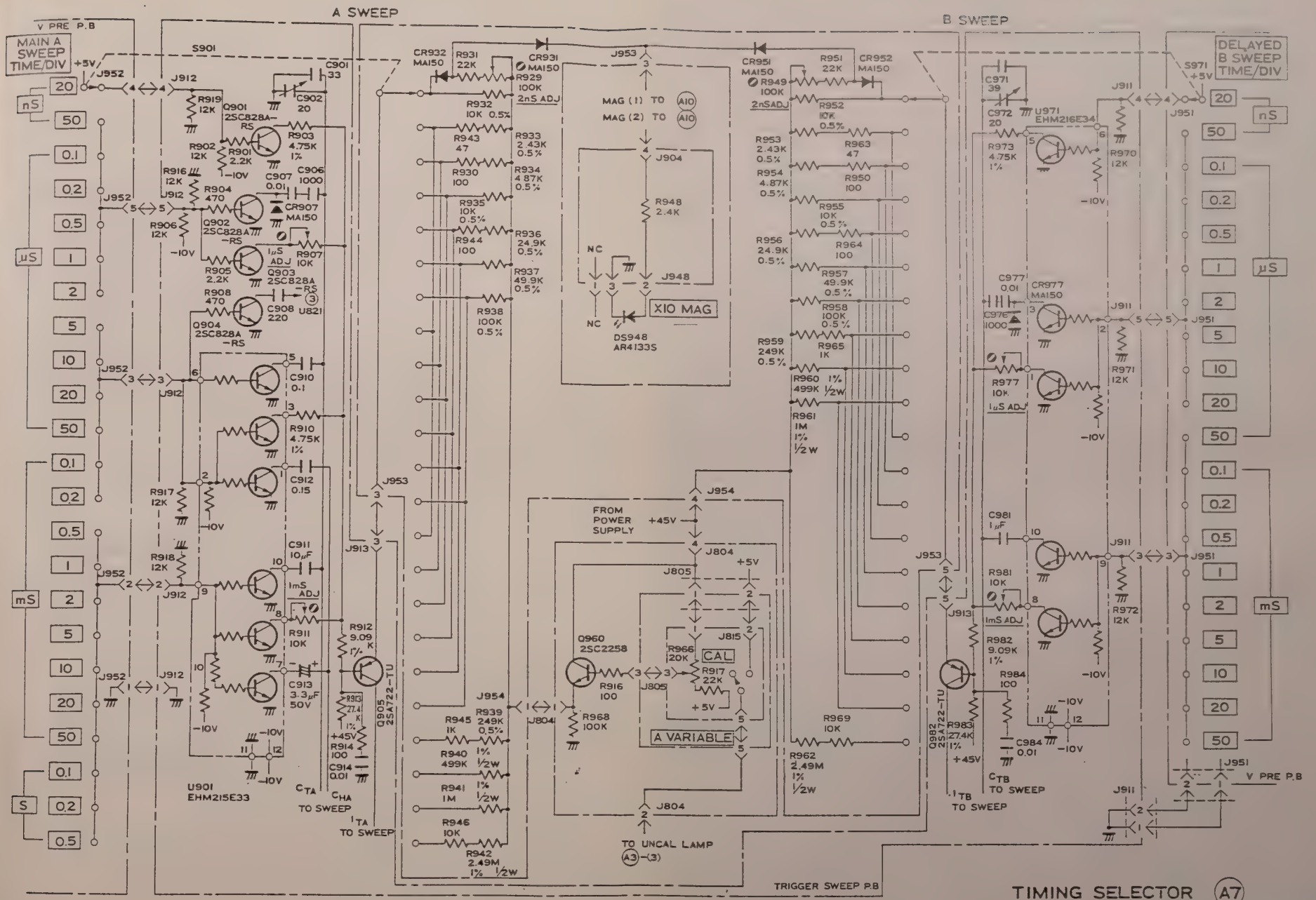
V MODE CIRCUIT (A2) -(5) 6


V OUT AMP P.B
FROM VERTICAL PRE AMP A2 -(3)
DL501 74W010
DELAY LINE
Q501 2SC2026
Q502 2SC2026
Q503 2SC2026
Q504 2SC2026
Q505 2SC2026
Q506 2SC2026
Q507 2SC1252
Q508 2SC1252
Q509 2SC1252
Q510 2SC1252
Q511 2SC1509
TO A
TO B
TO C
TO D
TO CRT Y DEFLECTION (-) A8 -(2)
TO CRT Y DEFLECTION (+) A8 -(2)
+10Va
-10Va
+45Va
-10Vb
+10V
-10V
S501
DS511 AR4133S
BAND WIDTH
J501
J502
FINDER A8 -(2)
GND
SEPARATION FROM R588 A3 -(5)
SEP SIGNAL FROM R995 A3 -(5)
TO A8 -(4)
CR516 MA150
CR517 MA150
CR518 MA150
CR519 MA150
CR559 MA150
RTS21 1K

V OUT AMP (A5) -(1)

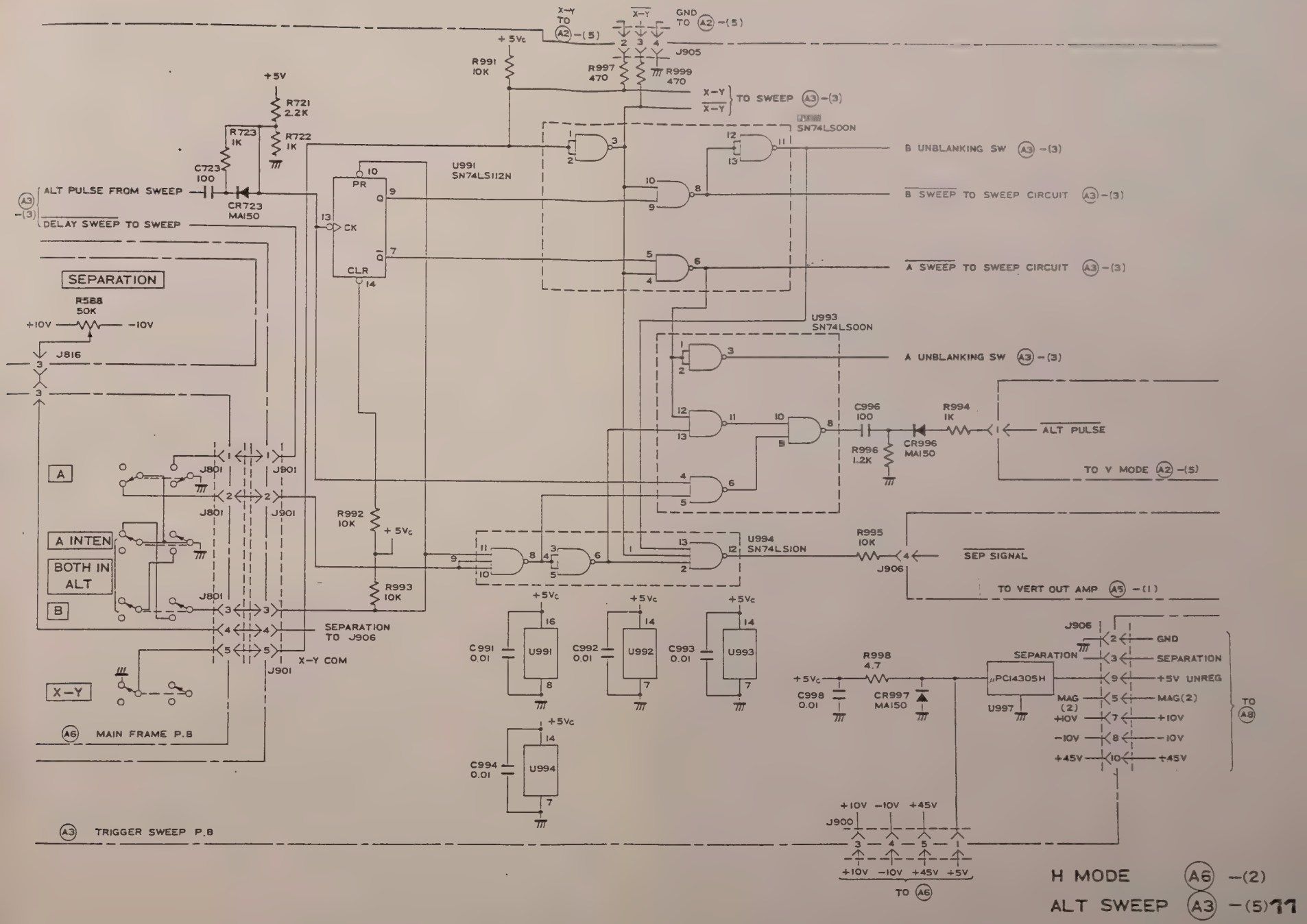

CH3 POSITION
MAIN FRAME P.B
LINE SIG TO (A8)-(4)
TRIGGER SWEEP P.B
LINE SIG
EXT A TRIG(CH3) INPUT
INT SIG
INT
LINE
EXT
EXT ÷10
AC
AC-LF
TV(V)
DC
A LEVEL
A TRIG CENTERING
NORM
FIX
CH4 POSITION
EXT B TRIG(CH4) INPUT
AC
AC-LF
TV(H)
DC
B LEVEL
B TRIG CENTERING
CH3 GAIN
CH4 GAIN
TO VERTICAL PRE AMP (A2)-(3)
SLOPE OUT- IN+
FIX ADJ
TRIGGER AMP (A3)-(2)

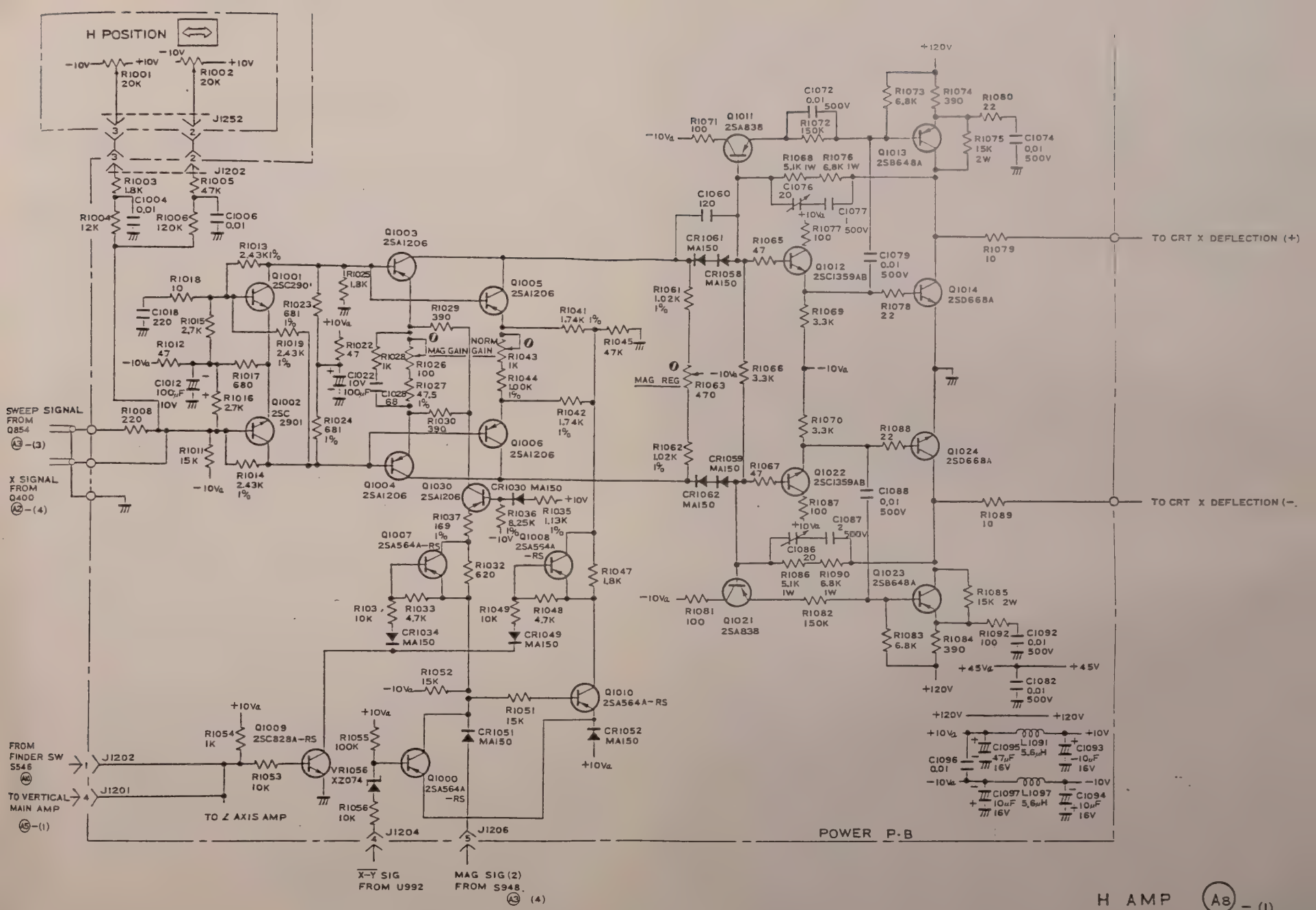

AUTO
NORM
SINGLE READY
FREE RUN
A TRIG PULSE
B TRIG PULSE
HOLD OFF
A SWEEP LENGTH
B SWEEP LENGTH
DELAY TIME MULT
DELAY START
DELAY STOP
UNCAL
A SWEEP
SWEEP START
SWEEP UNCAL SIG
SWEEP SIGNAL TO H AMP
DELAY SWEEP TO ALT SWEEP
A GATE
B GATE
TO ALT SWEEP (TO U991)
TO Z AMP
A UNBLANKING SW SIG FROM ALT SWEEP
B UNBLANKING SW SIG FROM ALT SWEEP
A SWEEP TO TIMING
TO TIMING CCT
TO TIMING CCT CTB
FROM CRT CONTROL MAG(1) MAG(1)
H MODE (A6) – (1)
SWEEP (A3) – (3)
9

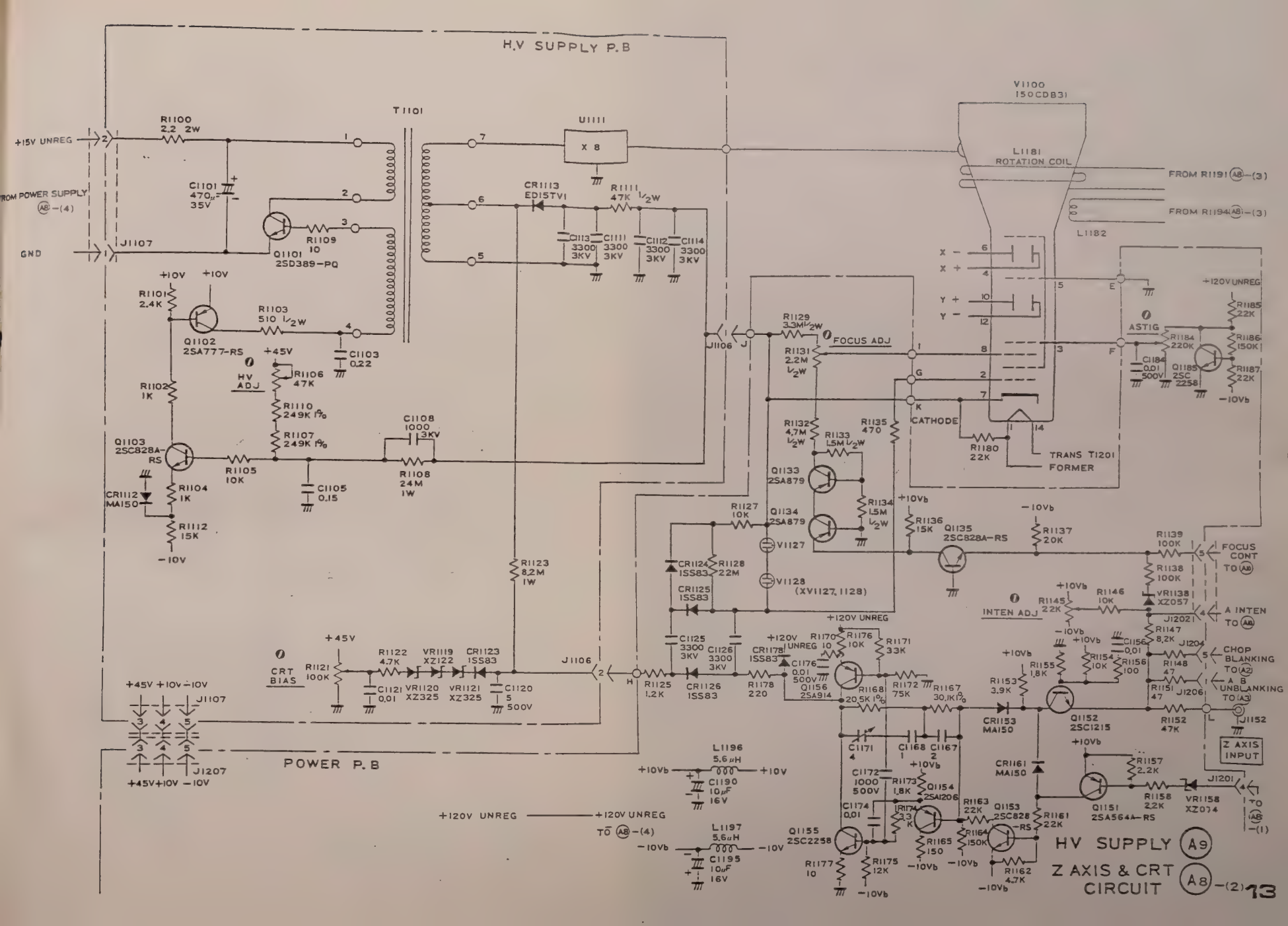


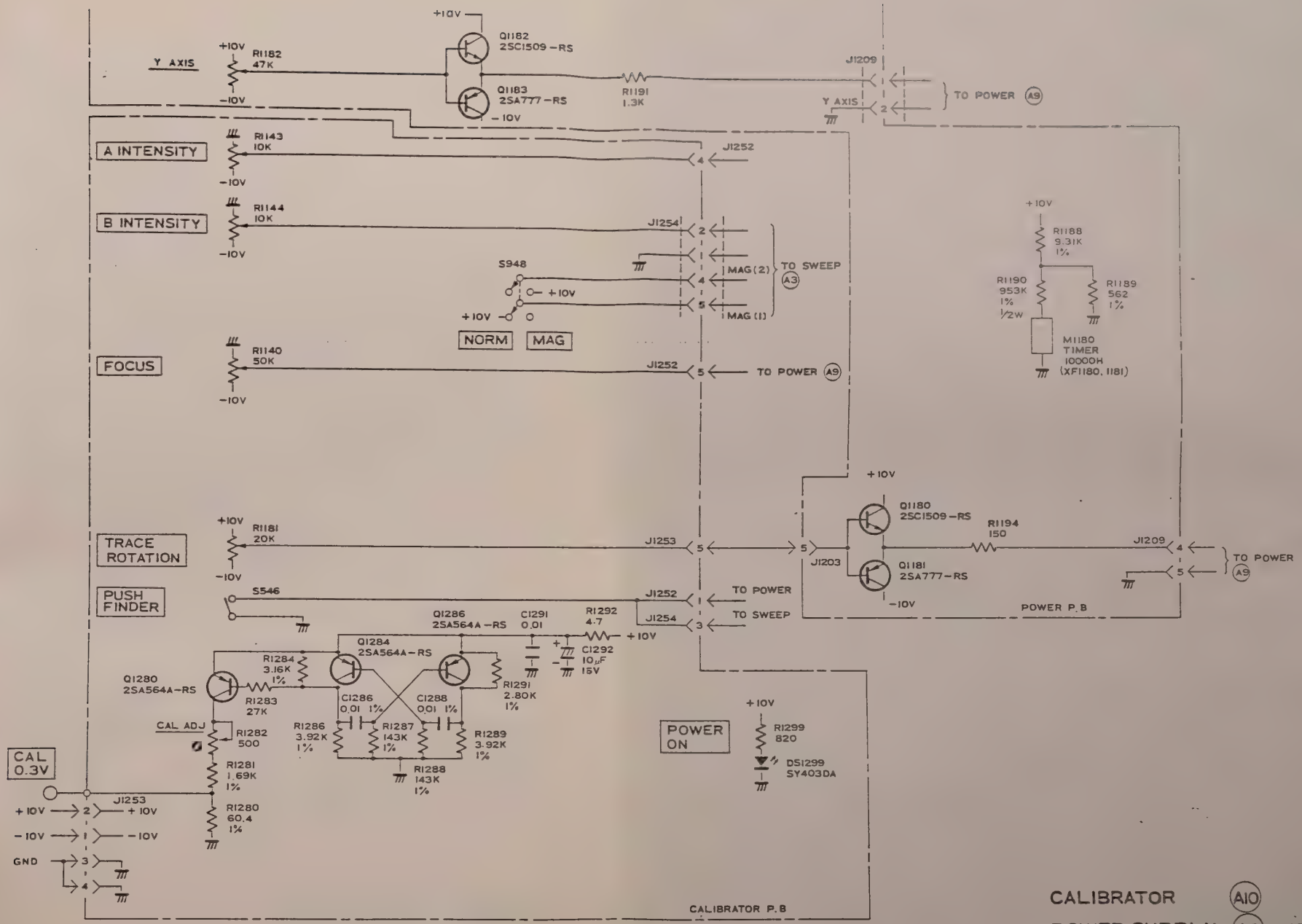
TIMING SELECTOR (A7)

TIMING CIRCUIT (A3)-(4)10


X-Y TO A2 -(5)
X-Y
GND TO A2 -(5)
J905
+5Vc
R991 10K
R997 470
R999 470
X-Y
X-Y
TO SWEEP A3 -(3)
SN74LS00N
+5V
R721 2.2K
R723 1K
R722 1K
C723 100
ALT PULSE FROM SWEEP
CR723 MA150
DELAY SWEEP TO SWEEP
U991 SN74LS112N
PR
CK
CLR
B UNBLANKING SW A3 -(3)
B SWEEP TO SWEEP CIRCUIT A3 -(3)
A SWEEP TO SWEEP CIRCUIT A3 -(3)
SEPARATION
R588 50K
+10V
-10V
J816
U993 SN74LS00N
A UNBLANKING SW A3 -(3)
C996 100
R994 1K
ALT PULSE
R996 1.2K
CR996 MA150
TO V MODE A2 -(5)
A
B
A INTEN
BOTH IN ALT
X-Y
J801
J901
R992 10K
+5Vc
R993 10K
U994 SN74LS10N
R995 10K
J906
SEP SIGNAL
TO VERT OUT AMP A5 -(1)
SEPARATION TO J906
X-Y COM
C991 0.01
U991
C992 0.01
U992
C993 0.01
U993
C994 0.01
U994
R998 4.7
C998 0.01
CR997 MA150
U997
μPC1430SH
SEPARATION
MAG (2)
+10V
-10V
+45V
GND
+5V UNREG
TO A8
A6 MAIN FRAME P.B
A3 TRIGGER SWEEP P.B
J900
+10V -10V +45V +5V
TO A6
H MODE A6 -(2)
ALT SWEEP A3 -(5)

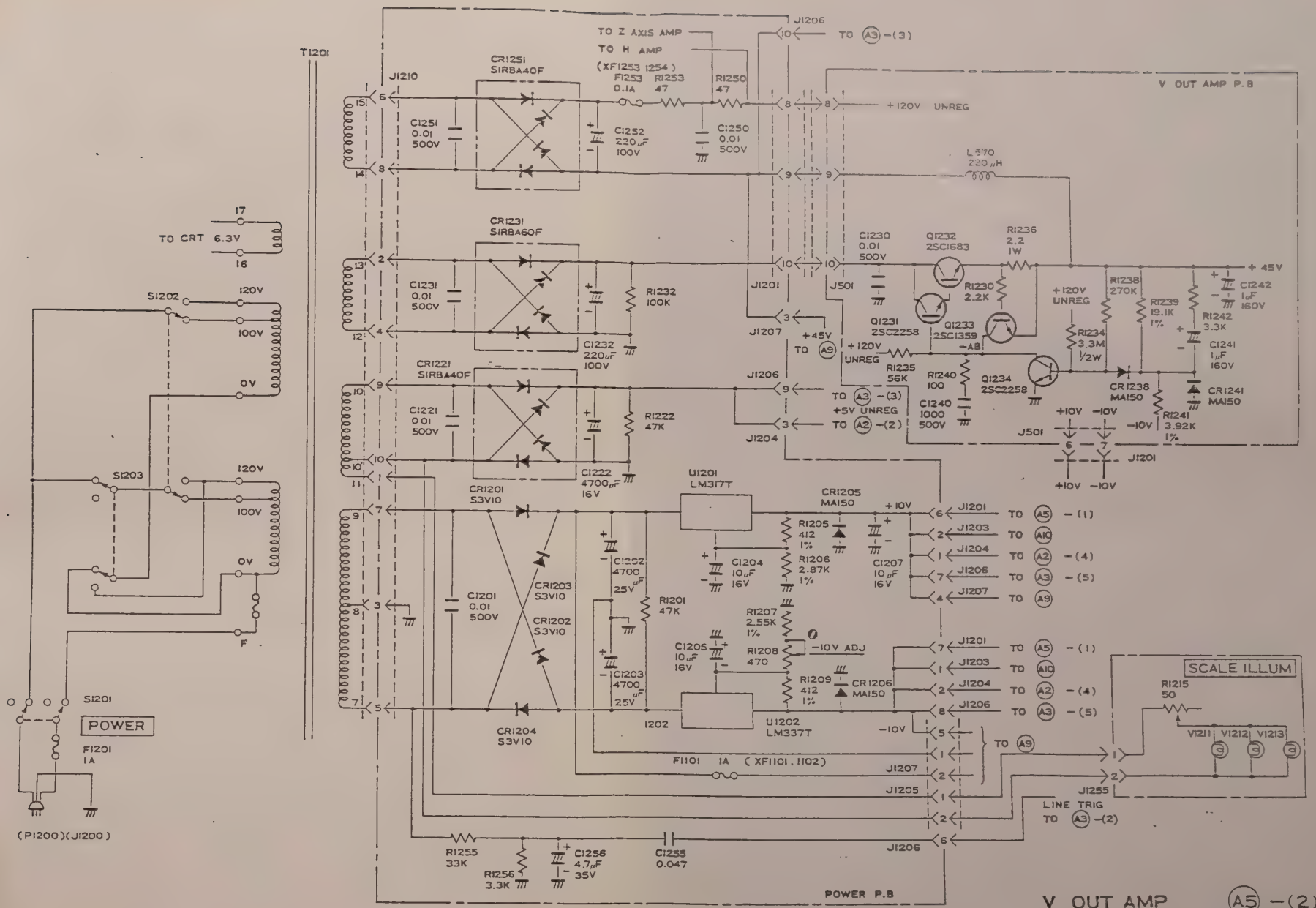

H POSITION
R1001 20K
R1002 20K
J1252
J1202
J1201
R1003 1.8K
R1005 4.7K
C1004 0.01
R1004 12K
R1006 120K
C1006 0.01
R1013 2.43K 1%
R1018 10
C1018 220
R1015 2.7K
R1012 47
C1012 100µF 10V
R1016 2.7K
R1017 680
R1019 2.43K 1%
R1023 681 1%
R1025 1.8K
R1022 47
C1022 10V 100µF
R1028 1K
R1026 100
R1027 47.5 1%
C1028 68
R1029 390
R1030 390
R1024 681 1%
R1008 220
R1011 15K
R1014 2.43K 1%
Q1001 2SC290'
Q1002 2SC 2901
Q1003 2SA1206
Q1005 2SA1206
Q1006 2SA1206
Q1004 2SA1206
Q1030 2SA1206
MAG GAIN
NORM GAIN
R1043 1K
R1044 1.00K 1%
R1041 1.74K 1%
R1045 47K
R1042 1.74K 1%
SWEEP SIGNAL FROM Q854 A3-(3)
X SIGNAL FROM Q400 A2-(4)
CR1030 MA150
R1036 8.25K 1%
R1035 1.13K 1%
R1037 169 1%
Q1007 2SA564A-RS
Q1008 2SA564A-RS
R1032 620
R1047 1.8K
R103 10K
R1033 4.7K
R1049 10K
R1048 4.7K
CR1034 MA150
CR1049 MA150
R1052 15K
R1051 15K
Q1010 2SA564A-RS
CR1051 MA150
CR1052 MA150
Q1009 2SC828A-RS
R1054 1K
R1055 100K
VR1056 XZ074
R1053 10K
R1056 10K
Q1000 2SA564A-RS
FROM FINDER SW S546 A6
TO VERTICAL MAIN AMP A5-(1)
TO Z AXIS AMP
J1204
J1206
X-Y SIG FROM U992
MAG SIG (2) FROM S948. A3 (4)
+120V
C1072 0.01 500V
R1073 6.8K
R1074 390
R1080 22
R1071 100
Q1011 2SA838
R1072 150K
R1075 15K 2W
C1074 0.01 500V
R1068 5.1K 1W
R1076 6.8K 1W
Q1013 2SB648A
C1076 20
C1077 1 500V
C1060 120
R1077 100
CR1061 MA150
CR1058 MA150
R1065 47
Q1012 2SC1359AB
C1079 0.01 500V
R1079 10
TO CRT X DEFLECTION (+)
R1061 1.02K 1%
R1069 3.3K
Q1014 2SD668A
R1078 22
MAG REG
R1063 470
R1066 3.3K
R1070 3.3K
R1088 22
Q1024 2SD668A
R1062 1.02K 1%
CR1059 MA150
CR1062 MA150
R1067 47
Q1022 2SC1359AB
C1088 0.01 500V
R1087 100
R1089 10
TO CRT X DEFLECTION (-)
C1087 2 500V
C1086 20
R1086 5.1K 1W
R1090 6.8K 1W
Q1023 2SB648A
R1085 15K 2W
R1081 100
Q1021 2SA838
R1082 150K
R1083 6.8K
R1084 390
R1092 100
C1092 0.01 500V
+45V
C1082 0.01 500V
C1095 47µF 16V
L1091 5.6µH
C1093 10µF 16V
C1096 0.01
C1097 10µF 16V
L1097 5.6µH
C1094 10µF 16V
POWER P-B
H AMP A8-(1)
12


H.V SUPPLY P.B
+15V UNREG
FROM POWER SUPPLY A8 -(4)
GND
J1107
R1100 2.2 2W
C1101 470μ 35V
Q1101 2SD389-PQ
R1109 10
T1101
U1111 X 8
CR1113 ED15TV1
R1111 47K 1/2W
C1113 3300 3KV
C1111 3300 3KV
C1112 3300 3KV
C1114 3300 3KV
V1100 150CDB31
L1181 ROTATION COIL
L1182
FROM R1191 A8 -(3)
FROM R1194 A8 -(3)
X -
X +
Y +
Y -
+10V
R1101 2.4K
Q1102 2SA777-RS
R1103 510 1/2W
C1103 0.22
+45V
HV ADJ
R1106 47K
R1102 1K
R1110 249K 1%
R1107 249K 1%
C1108 1000 3KV
Q1103 2SC828A-RS
R1105 10K
R1108 24M 1W
C1105 0.15
CR1112 MA150
R1104 1K
R1112 15K
-10V
R1123 8.2M 1W
J1106
R1129 3.3M 1/2W
FOCUS ADJ
R1131 2.2M 1/2W
R1132 4.7M 1/2W
R1133 1.5M 1/2W
R1135 470
CATHODE
R1180 22K
TRANS T1201 FORMER
+120V UNREG
R1185 22K
ASTIG
R1184 220K
R1186 150K
C1184 0.01 500V
Q1185 2SC 2258
R1187 22K
-10Vb
Q1133 2SA879
Q1134 2SA879
R1134 1.5M 1/2W
R1127 10K
+10Vb
R1136 15K
Q1135 2SC828A-RS
-10Vb
R1137 20K
R1139 100K
FOCUS CONT TO A8
CR1124 1SS83
R1128 22M
CR1125 1SS83
V1127
V1128 (XV1127, 1128)
R1138 100K
VR1138 XZ057
A INTEN TO A8
INTEN ADJ
R1145 22K
R1146 10K
J1202
R1147 8.2K
J1204
CHOP BLANKING TO A2
A B UNBLANKING TO A3
J1206
R1148 47
R1151 47
J1152
Z AXIS INPUT
J1201
TO A8 -(1)
+120V UNREG
R1170 10
R1176 10K
R1171 33K
CR1178 1SS83
C1176 0.01 500V
Q1156 2SA914
R1172 75K
R1167 30.1K 1%
R1168 20.5K 1%
C1125 3300 3KV
C1126 3300 3KV
R1125 1.2K
CR1126 1SS83
R1178 220
+45V
CRT BIAS
R1121 100K
R1122 4.7K
VR1119 XZ122
CR1123 1SS83
VR1120 XZ325
VR1121 XZ325
C1121 0.01
C1120 5 500V
+45V +10V -10V
J1107
J1207
+45V +10V -10V
POWER P.B
+10Vb
R1155 1.8K
R1154 10K
C1156 0.01
R1156 100
R1153 3.9K
Q1152 2SC1215
CR1153 MA150
R1152 47K
C1171
C1168
C1167
CR1161 MA150
R1157 2.2K
R1158 22K
VR1158 XZ014
Q1151 2SA564A-RS
C1172 1000 500V
R1173 1.8K
Q1154 2SA1206
C1174 0.01
R1174 3.3K
R1163 22K
Q1153 2SC828-RS
R1161 22K
R1164 150K
R1165 150
R1162 4.7K
L1196 5.6μH
C1190 10μF 16V
L1197 5.6μH
C1195 10μF 16V
+120V UNREG
TO A8 -(4)
Q1155 2SC2258
R1177 10
R1175 12K
HV SUPPLY A9
Z AXIS & CRT CIRCUIT A8 -(2)
13



CALIBRATOR (A10)

POWER SUPPLY (A8) – (3)



V OUT AMP (A5) -(2)

POWER SUPPLY (A8) -(4)

SALES OFFICE IN THE UNITED STATES OF AMERICA

Panasonic Industrial Company
P.O. Box 1502
One Panasonic Way, Secaucus, New Jersey 07094
TEL : (201) 392-4050/4521 TWX : 710-992-8920

PARTS LIST

.	4G204440	V PRE ASSY	3-1
.	4G204441	SWEEP ASSY	3-16
.	4G204442	POWER ASSY	3-30
.	4G204443	V OUT ASSY	3-37
.	4G204444	MAIN FRAME ASSY	3-41
.	4G204445	H.V.SUPPLY	3-45
.	4G204989	CABLE,ACCESSORY	3-46
.	4G302691-1	MECHA	3-47
.	4G302692-1	COVER	3-50
.	4G302887	PACKAGE	3-50

V PRE ASSY DWG NO 4G204440

REF NO	QTY	PART NO	DESCRIPTION	
C 100	1	ECCD2H010CC	C:FXD CER TC	1PF +-0.25PF 500V NPO
C 101	1	4G440098-1	C:VAR AIR	1.7PF
C 102	1	ECKD2H471KB2	C:FXD CER HI-K	470PF +-10% 500V
C 104	1	ECV1ZW04X53T	C:VAR CER	4PF
C 105	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 106	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 108	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 110	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 112	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 115	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 116	1	ECQM1H332KZ	C:FXD FLM	3300PF 10% 50V
C 121	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 122	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 124	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO
C 131	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 139	1	ECV1ZW20X53T	C:VAR CER	20PF
C 140	1	ECCW1H270KC5	C:FXD CER TC	27PF +-10% 50V NPO
C 141	1	ECV1ZW20X53T	C:VAR CER	20PF
C 142	1	ECCF1H030CC	C:FXD CER TC	3PF +-0.25PF 50V NPO
C 143	1	ECV1ZW20X53T	C:VAR CER	20PF
C 147	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 148	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 151	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO
C 154	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 155	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 156	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 158	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 159	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 166	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO
C 167	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO
C 172	1	ECV1ZW20X53T	C:VAR CER	20PF
C 173	1	ECKF1H271KB	C:FXD CER HI-K	270PF +-10% 50V
C 174	1	ECKF1H271KB	C:FXD CER HI-K	270PF +-10% 50V
C 180	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 183	1	ECCW1H040DC5	C:FXD CER TC	4PF +-0.5PF 50V NPO
C 186	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 200	1	ECCD2H010CC	C:FXD CER TC	1PF +-0.25PF 500V NPO
C 201	1	4G440098-1	C:VAR AIR	1.7PF
C 202	1	ECKD2H471KB2	C:FXD CER HI-K	470PF +-10% 500V
C 204	1	ECV1ZW04X53T	C:VAR CER	4PF
C 205	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 206	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 208	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 210	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 212	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V

V PRE ASSY DWG NO 4G204440

REF NO	QTY	PART NO	DESCRIPTION	
C 215	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 216	1	ECQM1H332KZ	C:FXD FLM	3300PF 10% 50V
C 221	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 222	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 224	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO
C 231	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 239	1	ECV1ZW20X53T	C:VAR CER	20PF
C 240	1	ECCW1H270KC5	C:FXD CER TC	27PF +-10% 50V NPO
C 241	1	ECV1ZW20X53T	C:VAR CER	20PF
C 242	1	ECCF1H030CC	C:FXD CER TC	3PF +-0.25PF 50V NPO
C 243	1	ECV1ZW20X53T	C:VAR CER	20PF
C 247	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 248	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 251	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO
C 254	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 255	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 256	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 258	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 259	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 266	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO
C 267	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO
C 272	1	ECV1ZW20X53T	C:VAR CER	20PF
C 273	1	ECKF1H271KB	C:FXD CER HI-K	270PF +-10% 50V
C 274	1	ECKF1H271KB	C:FXD CER HI-K	270PF +-10% 50V
C 280	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 286	1	ECKF1H103ZF	C:FXD CER HI-K	10000PF +80-20% 50V
C 286	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 294	1	ECCW1H040DC5	C:FXD CER TC	4PF +-0.5PF 50V NPO
C 308	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 309	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 317	1	ECCW1H100FC5	C:FXD CER TC	10PF +-1.0PF 50V NPO
C 335	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V
C 340	1	ECCW1H100FC5	C:FXD CER TC	10PF +-1.0PF 50V NPO
C 355	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V
C 364	1	ECCW1H100FC5	C:FXD CER TC	10PF +-1.0PF 50V NPO
C 384	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 385	1	ECCW1H050DC5	C:FXD CER TC	5PF +-0.5PF 50V NPO
C 392	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 393	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 398	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V
C 405	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO
C 411	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 417	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO
C 423	1	ECCW1H330KC5	C:FXD CER TC	33PF +-10% 50V NPO
C 424	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO

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REF NO	QTY	PART NO	DESCRIPTION	
C 430	1	ECCW1H060DC5	C:FXD CER TC	6PF +-0.5PF 50V NPO
C 437	1	ECCW1H271K5	C:FXD CER TC	270PF +-10% 50V SL
C 441	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 444	1	ECKF1H103ZF	C:FXD CER HI-K	10000PF +80-20% 50V
C 444	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 448	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO
C 452	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL
C 458	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 459	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 461	1	ECKF1H103ZF	C:FXD CER HI-K	10000PF +80-20% 50V
C 461	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 463	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 464	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 478	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
CR 101	1	1S1544A	DIODE:SI	100MA 30V
CR 201	1	1S1544A	DIODE:SI	100MA 30V
CR 311	1	MA150TA	DIODE:SI	100MA 35V
CR 312	1	MA150TA	DIODE:SI	100MA 35V
CR 313	1	MA150TA	DIODE:SI	100MA 35V
CR 314	1	MA150TA	DIODE:SI	100MA 35V
CR 321	1	MA150TA	DIODE:SI	100MA 35V
CR 322	1	MA150TA	DIODE:SI	100MA 35V
CR 323	1	MA150TA	DIODE:SI	100MA 35V
CR 324	1	MA150TA	DIODE:SI	100MA 35V
CR 341	1	MA150TA	DIODE:SI	100MA 35V
CR 342	1	MA150TA	DIODE:SI	100MA 35V
CR 343	1	MA150TA	DIODE:SI	100MA 35V
CR 344	1	MA150TA	DIODE:SI	100MA 35V
CR 361	1	MA150TA	DIODE:SI	100MA 35V
CR 362	1	MA150TA	DIODE:SI	100MA 35V
CR 363	1	MA150TA	DIODE:SI	100MA 35V
CR 364	1	MA150TA	DIODE:SI	100MA 35V
CR 399	1	MA150TA	DIODE:SI	100MA 35V
CR 401	1	MA150TA	DIODE:SI	100MA 35V
CR 402	1	MA150TA	DIODE:SI	100MA 35V
CR 403	1	MA150TA	DIODE:SI	100MA 35V
CR 404	1	MA150TA	DIODE:SI	100MA 35V
CR 411	1	MA150TA	DIODE:SI	100MA 35V
CR 412	1	MA150TA	DIODE:SI	100MA 35V
CR 413	1	MA150TA	DIODE:SI	100MA 35V
CR 414	1	MA150TA	DIODE:SI	100MA 35V
CR 421	1	MA150TA	DIODE:SI	100MA 35V
CR 422	1	MA150TA	DIODE:SI	100MA 35V
CR 423	1	MA150TA	DIODE:SI	100MA 35V

V PRE ASSY DWG NO 4G204440

REF NO	QTY	PART NO	DESCRIPTION	
CR 424	1	MA150TA	DIODE:SI	100MA 35V
CR 442	1	MA150TA	DIODE:SI	100MA 35V
CR 443	1	MA150TA	DIODE:SI	100MA 35V
CR 444	1	MA150TA	DIODE:SI	100MA 35V
CR 445	1	MA150TA	DIODE:SI	100MA 35V
CR 451	1	MA150TA	DIODE:SI	100MA 35V
CR 452	1	MA150TA	DIODE:SI	100MA 35V
CR 474	1	MA150TA	DIODE:SI	100MA 35V
CR 478	1	MA150TA	DIODE:SI	100MA 35V
CR 494	1	MA150TA	DIODE:SI	100MA 35V
CR 931	1	MA150TA	DIODE:SI	100MA 35V
CR 932	1	MA150TA	DIODE:SI	100MA 35V
CR 951	1	MA150TA	DIODE:SI	100MA 35V
CR 952	1	MA150TA	DIODE:SI	100MA 35V
E 101	1	1G401227-3	P5512A PC BOARD	
J 300	1	EMCS1060	CONNECTOR:PIN	PLUG 10P
J 301	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 302	1	EMCS1060	CONNECTOR:PIN	PLUG 10P
J 303	1	EMCS1060	CONNECTOR:PIN	PLUG 10P
J 304	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 305	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 307	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J 308	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J 309	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J 319	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J 951	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 952	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 953	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 954	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
L 398	1	ELEH1R0MA	COIL:CHOKE	1UH 20%
L 431	1	OP331HL82	FERRITE CORE	
L 432	1	OP331HL82	FERRITE CORE	
MP 301	1	4G617087-0BB	P5512A PLATE:ATTEN GRD	
MP 302	1	4G617087-0BB	P5512A PLATE:ATTEN GRD	
MP 303	1	4G617100-0DB	P5512ASHIELD:ATTEN	
MP 304	1	4G617100-0DB	P5512ASHIELD:ATTEN	
MP 305	1	FTE15	LUG TERMINAL	
MP 306	1	FTE15	LUG TERMINAL	
Q 100	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q 101	1	J309	TSTR:FET	PC:350MW FC:450MHZ
Q 102	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 103	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 104	1	UPA71A-L	TSTR:FET	PC:250MW

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REF NO	QTY	PART NO	DESCRIPTION	
Q 105	1	75A015	TSTR:SI NPN	2SC1733 SELECT
Q 107	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 108	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 109	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 110	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 113	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 114	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 200	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q 201	1	J309	TSTR:FET	PC:350MW FC:450MHZ
Q 202	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 203	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 204	1	UPA71A-L	TSTR:FET	PC:250MW
Q 205	1	75A015	TSTR:SI NPN	2SC1733 SELECT
Q 207	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 208	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 209	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 210	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 213	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 214	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 215	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 216	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 303	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q 304	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q 311	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 321	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 331	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 332	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 333	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 351	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 352	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 353	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 379	1	75A015	TSTR:SI NPN	2SC1733 SELECT
Q 391	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q 392	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q 400	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q 401	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 402	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 403	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 404	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 411	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 412	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q 413	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 414	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q 421	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q 422	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ

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REF	NO	QTY	PART NO	DESCRIPTION	
Q	431	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	432	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	449	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	450	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	451	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	452	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	475	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	476	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	477	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	481	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	482	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	483	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	484	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	485	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
R	100	1	ERO25CKF2212	R:FXD MET FLM	22.1K OHM 1% 1/4W
R	101	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R	103	1	ERO25CKF2493	R:FXD MET FLM	249K OHM 1% 1/4W
R	104	1	ERO50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W
R	105	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R	106	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	107	1	ERC14GK226	R:FXD COMP	22M OHM 10% 1/4W
R	108	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	109	1	ERD25TJ621V	R:FXD CARBON	620 OHM 5% 1/4W
R	110	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R	111A	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	111B	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	112	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	113	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	114	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W
R	115	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W
R	116	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	117	1	ERD10TJ102	R:FXD CARBON	1K OHM 5% 1/8W
R	118	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	119	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	120	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W
R	121	1	ERD10TJ220	R:FXD CARBON	22 OHM 5% 1/8W
R	122	1	ERD50TJ102	R:FXD CARBON	1K OHM 5% 1/2W
R	123	1	ERO25CKF2673	R:FXD MET FLM	267K OHM 1% 1/4W
R	124	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	125	1	ERO50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W
R	126	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	127	1	ERO25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W
R	128	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W
R	129	1	ERD25TJ120V	R:FXD CARBON	12 OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	130	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W
R	131	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	132	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	133	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	134	1	ERD25TJ620V	R:FXD CARBON	62 OHM 5% 1/4W
R	135	1	ERO25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W
R	136	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	137	1	ERO25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W
R	138	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W
R	139	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R	140	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	141	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R	142	1	ERD25TJ240V	R:FXD CARBON	24 OHM 5% 1/4W
R	143	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	144	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	145	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W
R	146	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W
R	147	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	148	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	149	1	ERO25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W
R	150	1	ERO25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W
R	151	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	152	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	153	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R	154	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	155	1	ERO25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W
R	156	1	ERO25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W
R	157	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W
R	158	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	159	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	160	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	161	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	162	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	163	1	ERO25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W
R	164	1	ERO25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W
R	165	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W
R	166	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%
R	167	1	TM64K2PV2-53	R:VAR CERMET	5K OHM 20%
R	168	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	169	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	170	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	171	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	172	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	173	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R	174	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	175	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R	176	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R	177	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	178	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	179	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W
R	180	1	ERD10TJ431	R:FXD CARBON	430 OHM 5% 1/8W
R	181	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W
R	182	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W
R	183	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	184	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	185	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	186	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	187	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	188	1	ERD25TJ302V	R:FXD CARBON	3K OHM 5% 1/4W
R	189	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W
R	190	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%
R	192	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W
R	197	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	198	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	199	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	200	1	ERO25CKF2212	R:FXD MET FLM	22.1K OHM 1% 1/4W
R	201	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R	203	1	ERO25CKF2493	R:FXD MET FLM	249K OHM 1% 1/4W
R	204	1	ERO50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W
R	205	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R	206	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	207	1	ERC14GK226	R:FXD COMP	22M OHM 10% 1/4W
R	208	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	209	1	ERD25TJ621V	R:FXD CARBON	620 OHM 5% 1/4W
R	210	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R	211A	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	211B	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	212	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	213	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	214	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W
R	215	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W
R	216	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	217	1	ERD10TJ102	R:FXD CARBON	1K OHM 5% 1/8W
R	218	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	219	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	220	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W
R	221	1	ERD10TJ220	R:FXD CARBON	22 OHM 5% 1/8W
R	222	1	ERD50TJ102	R:FXD CARBON	1K OHM 5% 1/2W
R	223	1	ERO25CKF2673	R:FXD MET FLM	267K OHM 1% 1/4W
R	224	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%

V PRE ASSY DWG NO 4G204440

REF	NO	QTY	PART NO	DESCRIPTION	
R	225	1	ERO50CKF7503	R:FXD MET FLM	750K OHM 1% 1/2W
R	226	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	227	1	ERO25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W
R	228	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W
R	229	1	ERD25TJ120V	R:FXD CARBON	12 OHM 5% 1/4W
R	230	1	RP82AF50R0	R:FXD MET FLM	50 OHM 1% 1/4W
R	231	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	232	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	233	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	234	1	ERD25TJ620V	R:FXD CARBON	62 OHM 5% 1/4W
R	235	1	ERO25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W
R	236	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	237	1	ERO25CKF1821	R:FXD MET FLM	1.82K OHM 1% 1/4W
R	238	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W
R	239	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R	240	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	241	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R	242	1	ERD25TJ240V	R:FXD CARBON	24 OHM 5% 1/4W
R	243	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	244	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	245	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W
R	246	1	ERD10TJ750	R:FXD CARBON	75 OHM 5% 1/8W
R	247	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	248	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	249	1	ERO25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W
R	250	1	ERO25CKF5110	R:FXD MET FLM	511 OHM 1% 1/4W
R	251	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	252	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	253	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R	254	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	255	1	ERO25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W
R	256	1	ERO25CKF51R1	R:FXD MET FLM	51.1 OHM 1% 1/4W
R	257	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W
R	258	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	259	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	260	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	261	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	262	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	263	1	ERO25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W
R	264	1	ERO25CKF2550	R:FXD MET FLM	255 OHM 1% 1/4W
R	265	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W
R	266	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%
R	267	1	TM64K2PV2-53	R:VAR CERMET	5K OHM 20%
R	268	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	269	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	270	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	271	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	272	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	273	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R	274	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R	275	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R	276	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R	277	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	278	1	ERD25TJ561V	R:FXD CARBON	560 OHM 5% 1/4W
R	279	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W
R	279	1	ERD25TJ390V	R:FXD CARBON	39 OHM 5% 1/4W
R	280	1	ERD10TJ431	R:FXD CARBON	430 OHM 5% 1/8W
R	281	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W
R	282	1	ERD10TJ470	R:FXD CARBON	47 OHM 5% 1/8W
R	283	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	284	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	285	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	286	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	287	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	288	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	289	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W
R	290	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%
R	291	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	292	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	293	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	294	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	295	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	296	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	297	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	298	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	299	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	300	1	ERD10TJ390	R:FXD CARBON	39 OHM 5% 1/8W
R	300	1	ERD25TJ390V	R:FXD CARBON	39 OHM 5% 1/4W
R	301	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	302	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	303	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	304	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	305	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R	306	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	307	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R	308	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	309	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	310	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	312	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R	313	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W

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REF NO	QTY	PART NO	DESCRIPTION	
R 314	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 316	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 317	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 320	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 322	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R 324	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 326	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 327	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 331	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 332	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 333	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 334	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 335	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 336	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 337	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 338	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 339	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 340	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 341	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 342	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 347	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R 351	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 352	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 353	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 354	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 355	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 356	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 357	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 358	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 359	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 360	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 361	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 362	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 364	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W
R 367	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R 369	1	ERO25CKF6190	R:FXD MET FLM	619 OHM 1% 1/4W
R 370	1	ERO25CKF1820	R:FXD MET FLM	182 OHM 1% 1/4W
R 371	1	ERO25CKF9310	R:FXD MET FLM	910 OHM 1% 1/4W
R 372	1	ERO25CKF9310	R:FXD MET FLM	910 OHM 1% 1/4W
R 373	1	ERO25CKF3830	R:FXD MET FLM	383 OHM 1% 1/4W
R 374	1	ERO25CKF3830	R:FXD MET FLM	383 OHM 1% 1/4W
R 375	1	ERO50CKF1910	R:FXD MET FLM	191 OHM 1% 1/2W
R 376	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 377	1	ERO50CKF8060	R:FXD MET FLM	806 OHM 1% 1/2W
R 378	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W

V PRE ASSY DWG NO 4G204440

REF	NO	QTY	PART NO	DESCRIPTION	
R	379	1	ERO25CKF3010	R:FXD MET FLM	301 OHM 1% 1/4W
R	380	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W
R	381	1	ERO25CKF3010	R:FXD MET FLM	301 OHM 1% 1/4W
R	382	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	383	1	ERO50CKF8060	R:FXD MET FLM	806 OHM 1% 1/2W
R	384	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	385	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R	386	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R	387	1	ERO25CKF1820	R:FXD MET FLM	182 OHM 1% 1/4W
R	388	1	ERO25CKF6190	R:FXD MET FLM	619 OHM 1% 1/4W
R	389	1	ERD25TJ181V	R:FXD CARBON	180 OHM 5% 1/4W
R	390	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	391	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	392	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	393	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	394	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%
R	395	1	ERO25CKF4990	R:FXD MET FLM	499 OHM 1% 1/4W
R	396	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	397	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	398	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R	399	1	ERO25CKF1051	R:FXD MET FLM	1.05K OHM 1% 1/4W
R	400	1	TM64K2PV2-22	R:VAR CERMET	200 OHM 20%
R	401	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	402	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	403	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	404	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	405	1	ERO25CKF49R9	R:FXD MET FLM	49.9 OHM 1% 1/4W
R	406	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W
R	407	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W
R	408	1	ERO25CKF7870	R:FXD MET FLM	787 OHM 1% 1/4W
R	409	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	410	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	411	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W
R	412	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W
R	413	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	414	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	415	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	416	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	417	1	ERO25CKF49R9	R:FXD MET FLM	49.9 OHM 1% 1/4W
R	418	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W
R	419	1	ERO25CKF75R0	R:FXD MET FLM	75 OHM 1% 1/4W
R	420	1	ERO25CKF7870	R:FXD MET FLM	787 OHM 1% 1/4W
R	421	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	422	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	423	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W

V PRE ASSY DWG NO 4G204440

REF	NO	QTY	PART NO	DESCRIPTION	
R	424	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W
R	425	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%
R	426	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	427	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	428	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	429	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	430	1	ERO25CKF2210	R:FXD MET FLM	221 OHM 1% 1/4W
R	431	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%
R	432	1	ERO25CKF5760	R:FXD MET FLM	576 OHM 1% 1/4W
R	433	1	ERO25CKF5760	R:FXD MET FLM	576 OHM 1% 1/4W
R	434	1	ERO50CKF6650	R:FXD MET FLM	665 OHM 1% 1/2W
R	435	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%
R	436	1	ERO25CKF4750	R:FXD MET FLM	475 OHM 1% 1/4W
R	437	1	ERO50CKF3920	R:FXD MET FLM	392 OHM 1% 1/2W
R	438	1	ERO25CKF4750	R:FXD MET FLM	475 OHM 1% 1/4W
R	439	1	ERO50CKF6650	R:FXD MET FLM	665 OHM 1% 1/2W
R	440	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	441	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	442	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	443	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	444	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	445	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	446	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	447	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	448	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	449	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W
R	450	1	ERD25TJ513V	R:FXD CARBON	51K OHM 5% 1/4W
R	451	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	452	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R	453	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	454	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	455	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	456	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	457	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	458	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	459	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	460	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	461	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	462	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	463	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	464	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	465	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R	466	1	ERD25TJ912V	R:FXD CARBON	9.1K OHM 5% 1/4W
R	467	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W
R	468	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W

V PRE ASSY DWG NO 4G204440

REF NO	QTY	PART NO	DESCRIPTION	
R 469	1	ERD25TJ912V	R:FXD CARBON	9.1K OHM 5% 1/4W
R 470	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W
R 471	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 472	1	ERD25TJ912V	R:FXD CARBON	9.1K OHM 5% 1/4W
R 473	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W
R 474	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 475	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 476	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 477	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 478	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 479	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 480	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R 481	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R 482	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R 483	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 484	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 485	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R 486	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W
R 487	1	ERD25TJ911V	R:FXD CARBON	910 OHM 5% 1/4W
R 488	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 489	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 490	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 491	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 492	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W
R 493	1	ERO25CKF2210	R:FXD MET FLM	221 OHM 1% 1/4W
R 494	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W
R 495	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 496	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 497	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 498	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R 929	1	TM64K2PH-15	R:VAR CERMET	100K OHM 20%
R 930	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 931	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W
R 932	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W
R 933	1	ERO25CHD2431	R:FXD MET FLM	2.43K OHM 0.5% 1/4W
R 934	1	ERO25CHD4871	R:FXD MET FLM	4.87K OHM 0.5% 1/4W
R 935	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W
R 936	1	ERO25CHD2492	R:FXD MET FLM	24.9K OHM 0.5% 1/4W
R 937	1	ERO25CHD4992	R:FXD MET FLM	49.9K OHM 0.5% 1/4W
R 938	1	ERO25CHD1003	R:FXD MET FLM	
R 939	1	ERO25CHD2493	R:FXD MET FLM	249K OHM 0.5% 1/4W
R 940	1	ERO50CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W
R 941	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W
R 942	1	ERL50CKF2494	R:FXD MET GRZ	2.49M OHM 1% 1/2W
R 943	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	944	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	945	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	946	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	949	1	TM64K2PH-15	R:VAR CERMET	100K OHM 20%
R	950	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	951	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W
R	952	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W
R	953	1	ERO25CHD2431	R:FXD MET FLM	2.43K OHM 0.5% 1/4W
R	954	1	ERO25CHD4871	R:FXD MET FLM	4.87K OHM 0.5% 1/4W
R	955	1	ERO25CHD1002	R:FXD MET FLM	10K OHM 0.5% 1/4W
R	956	1	ERO25CHD2492	R:FXD MET FLM	24.9K OHM 0.5% 1/4W
R	957	1	ERO25CHD4992	R:FXD MET FLM	49.9K OHM 0.5% 1/4W
R	958	1	ERO25CHD1003	R:FXD MET FLM	
R	959	1	ERO25CHD2493	R:FXD MET FLM	249K OHM 0.5% 1/4W
R	960	1	ERO50CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W
R	961	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W
R	962	1	ERL50CKF2494	R:FXD MET GRZ	2.49M OHM 1% 1/2W
R	963	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	964	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	965	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	969	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
RT	101	1	ERTD2FGL750S	THERMISTOR	75 OHM 15%
RT	201	1	ERTD2FGL750S	THERMISTOR	75 OHM 15%
S	012	1	3G410248	P5512A ROTARY SW	ATT
S	022	1	3G410248	P5512A ROTARY SW	ATT
S	901	1	3G410247	P5512A ROTARY SW	TIMING
U	112	1	UPC157C	IC:OP AMP	
U	212	1	UPC157C	IC:OP AMP	
U	461	1	TC40H107P	IC:C MOS	DUAL J-K FLIP-FLOP
U	462	1	TC40H107P	IC:C MOS	DUAL J-K FLIP-FLOP
U	463	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE
U	464	1	TC40H010P	IC:C MOS	TRIPLE 3-1NPUT NAND GATE
U	465	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE
U	466	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE
U	467	1	TC40H000P	IC:C MOS	QUAD 2-INPUT NAND GATE
U	478	1	UPC14305H	IC:V RGLTR	+5V 1A
VR	311	1	RD5.1EB2	DIODE:ZENER	5.1V 500MW
VR	321	1	RD5.1EB2	DIODE:ZENER	5.1V 500MW
VR	333	1	RD5.1EB2	DIODE:ZENER	5.1V 500MW
VR	353	1	RD5.1EB2	DIODE:ZENER	5.1V 500MW
VR	397	1	RD5.1EB2	DIODE:ZENER	5.1V 500MW
XV	104	1	4G614902-0XB	HOLDER:NEON	
XV	204	1	4G614902-0XB	HOLDER:NEON	

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REF	NO	QTY	PART NO	DESCRIPTION	
C	601	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL
C	603	1	ECV1ZW40X53T	C:VAR CER	40PF
C	604	1	ECCD2H040DC	C:FXD CER TC	4PF +-0.5PF 500V NPO
C	605	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	606	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C	607	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO
C	608	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C	610	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	611	1	ECV1ZW40X53T	C:VAR CER	40PF
C	612	1	ECV1ZW02X53T	C:VAR CER	2PF
C	614	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO
C	615	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V
C	618	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	620	1	ECCW1H121KC5	C:FXD CER TC	120PF +-10% 50V NPO
C	620	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO
C	621	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL
C	622	1	ECCW1H020CC5	C:FXD CER TC	2PF +-0.25PF 50V NPO
C	623	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	624	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	625	1	ECEA1HU4R7	C:FXD AL ELECT	4.7UF +-20% 50V
C	626	1	ECEA1HU010	C:FXD AL ELECT	1UF +-20% 50V
C	627	1	ECEA1HU010	C:FXD AL ELECT	1UF +-20% 50V
C	628	1	ECEA1CU220	C:FXD AL ELECT	22UF +-20% 16V
C	629	1	ECEA1CU220	C:FXD AL ELECT	22UF +-20% 16V
C	637	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	638	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C	643	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C	656	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	657	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	665	1	ECCW1H330KC5	C:FXD CER TC	33PF +-10% 50V NPO
C	669	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO
C	673	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	674	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	679	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	681	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	682	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO
C	686	1	ECEA1HU4R7	C:FXD AL ELECT	4.7UF +-20% 50V
C	688	1	ECEA1HU4R7	C:FXD AL ELECT	4.7UF +-20% 50V
C	695	1	ECEA1CN470S	C:FXD AL ELECT	47UF +-20% 10V
C	701	1	ECCW1H471K5	C:FXD CER TC	470PF +-10% 50V SL
C	703	1	ECV1ZW40X53T	C:VAR CER	40PF
C	705	1	ECEA1HU010	C:FXD AL ELECT	1UF +-20% 50V
C	706	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	711	1	ECV1ZW40X53T	C:VAR CER	40PF
C	712	1	ECV1ZW02X53T	C:VAR CER	2PF

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REF	NO	QTY	PART NO	DESCRIPTION	
C	713	1	ECCW1H330KC5	C:FXD CER TC	33PF +-10% 50V NPO
C	715	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V
C	718	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	722	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO
C	723	1	ECCW1H101KC5	C:FXD CER TC	100PF +-10% 50V NPO
C	724	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C	730	1	ECKF1H103MD	C:FXD CER HI-K	10000PF +-20% 50V
C	737	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	764	1	ECKF1H102KB	C:FXD CER HI-K	1000PF +-10% 50V
C	765	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C	767	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	769	1	ECCW1H470KC5	C:FXD CER TC	47PF +-10% 50V NPO
C	773	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	774	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C	779	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	781	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	782	1	ECCW1H390KC5	C:FXD CER TC	39PF +-10% 50V NPO
C	790	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C	791	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C	807	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	810	1	ECCW1H180KC5	C:FXD CER TC	18PF +-10% 50V NPO
C	813	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO
C	817	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO
C	820	1	ECCW1H151KC5	C:FXD CER TC	150PF +-10% 50V NPO
C	823	1	ECEA1CU470	C:FXD AL ELECT	47UF +-20% 16V
C	824	1	ECEA1HU4R7	C:FXD AL ELECT	4.7UF +-20% 50V
C	825	1	ECCW1H020CC5	C:FXD CER TC	2PF +-0.25PF 50V NPO
C	839	1	ECEA1HU010	C:FXD AL ELECT	1UF +-20% 50V
C	843	1	ECEA1HU010	C:FXD AL ELECT	1UF +-20% 50V
C	850	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	852	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C	862	1	ECCW1H181KC5	C:FXD CER TC	180PF +-10% 50V NPO
C	879	1	ECCW1H020CC5	C:FXD CER TC	2PF +-0.25PF 50V NPO
C	880	1	ECCW1H270KC5	C:FXD CER TC	27PF +-10% 50V NPO
C	881	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	882	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	884	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	886	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	887	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	888	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	891	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C	901	1	XDM15C330K5	C:FXD MICA	33PF 10% 500V
C	902	1	ECV1ZW20X53T	C:VAR CER	20PF
C	906	1	ECQK1102GZ	C:FXD FLM	1000PF 2% 100V
C	907	1	ECQM1H103JZ	C:FXD FLM	0.01UF 5% 50V

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REF NO	QTY	PART NO	DESCRIPTION	
C 908	1	ECCW1H221K5	C:FXD CER TC	220PF +-10% 50V SL
C 910	1	ECQK1104GZ	C:FXD FLM	0.1UF 2% 100V
C 911	1	ECQE1106JN	C:FXD FLM	10UF 5% 100V
C 912	1	ECQM1H154KZ	C:FXD FLM	0.15UF 10% 50V
C 913	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 914	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 916	1	ECCF1H471K	C:FXD CER TC	470PF +-10% 50V SL
C 920	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 921	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 922	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 923	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 924	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 925	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 971	1	XDM15C330K5	C:FXD MICA	33PF 10% 500V
C 972	1	ECV1ZW20X53T	C:VAR CER	20PF
C 976	1	ECQK1102GZ	C:FXD FLM	1000PF 2% 100V
C 977	1	ECQM1H103JZ	C:FXD FLM	0.01UF 5% 50V
C 981	1	ECQK1105JG	C:FXD FLM	1UF 5% 100V
C 984	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 991	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 992	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 993	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 994	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 996	1	ECCW1H101KC5	C:FXD CER TC	100PF +-10% 50V NPO
C 998	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
CR 618	1	MA150TA	DIODE:SI	100MA 35V
CR 625	1	MA150TA	DIODE:SI	100MA 35V
CR 644	1	MA150TA	DIODE:SI	100MA 35V
CR 654	1	MA150TA	DIODE:SI	100MA 35V
CR 718	1	MA150TA	DIODE:SI	100MA 35V
CR 723	1	MA150TA	DIODE:SI	100MA 35V
CR 798	1	MA150TA	DIODE:SI	100MA 35V
CR 799	1	MA150TA	DIODE:SI	100MA 35V
CR 802	1	MA150TA	DIODE:SI	100MA 35V
CR 803	1	MA150TA	DIODE:SI	100MA 35V
CR 804	1	MA150TA	DIODE:SI	100MA 35V
CR 805	1	MA150TA	DIODE:SI	100MA 35V
CR 810	1	MA150TA	DIODE:SI	100MA 35V
CR 811	1	MA150TA	DIODE:SI	100MA 35V
CR 812	1	MA150TA	DIODE:SI	100MA 35V
CR 815	1	MA150TA	DIODE:SI	100MA 35V
CR 818	1	MA150TA	DIODE:SI	100MA 35V
CR 820	1	MA150TA	DIODE:SI	100MA 35V
CR 823	1	MA150TA	DIODE:SI	100MA 35V
CR 824	1	MA150TA	DIODE:SI	100MA 35V

SWEEP ASSY DWG NO 4G204441

REF	NO	QTY	PART NO	DESCRIPTION	
CR	825	1	MA150TA	DIODE:SI	100MA 35V
CR	826	1	MA150TA	DIODE:SI	100MA 35V
CR	843	1	MA150TA	DIODE:SI	100MA 35V
CR	876	1	MA150TA	DIODE:SI	100MA 35V
CR	884	1	MA150TA	DIODE:SI	100MA 35V
CR	887	1	MA150TA	DIODE:SI	100MA 35V
CR	907	1	MA150TA	DIODE:SI	100MA 35V
CR	977	1	MA150TA	DIODE:SI	100MA 35V
CR	996	1	MA150TA	DIODE:SI	100MA 35V
CR	997	1	MA150TA	DIODE:SI	100MA 35V
DS	800	1	AR4133S	LED	RED
DS	948	1	AR4133S	LED	RED
E	901	1	1G401228-3	P5512A PC BOARD	
J	900	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	901	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	902	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	904	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	905	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	906	1	EMCS1060	CONNECTOR:PIN	PLUG 10P
J	907	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J	908	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J	909	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J	910	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J	911	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	912	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	913	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	915	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J	918	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J	948	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J	969	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
L	924	1	3L0004	FERRITE CORE	
L	925	1	3L0004	FERRITE CORE	
MP	321	1	4G617076-1CB	P5512A HEAT SINK:H-OUT	
Q	601	1	J309	TSTR:FET	PC:350MW FC:450MHZ
Q	602	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	603	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	604	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	605	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ

SWEEP ASSY DWG NO 4G204441

REF	NO	QTY	PART NO	DESCRIPTION	
Q	606	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	607	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	608	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	609	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	610	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	611	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	612	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	613	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	614	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	615	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	617	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	701	1	J309	TSTR:FET	PC:350MW FC:450MHZ
Q	702	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	703	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	704	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	705	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	706	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	707	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	708	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	709	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	710	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	711	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	801	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q	803	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	804	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	805	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	806	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	807	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	808	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	821	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	822	1	UPA74V	TSTR:FET	PC:300MW FT:350MHZ
Q	823	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	824	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	825	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	851	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	852	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	853	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	854	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	855	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	861	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	862	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	863	1	2N3906	TSTR:SI PNP	PC:300MW FT:250MHZ
Q	864	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	865	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	866	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ

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REF NO	QTY	PART NO	DESCRIPTION	
Q 881	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q 882	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q 883	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q 884	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q 885	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q 886	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q 901	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 902	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 903	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 904	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q 905	1	2SA722-TU	TSTR:SI PNP	PC:150MW FT:250MHZ
Q 982	1	2SA722-TU	TSTR:SI PNP	PC:150MW FT:250MHZ
R 601	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 602	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W
R 603	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 604	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 605	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 606	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 607	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 608	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 609	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 610	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 611	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 612	1	ERO50CKF9533	R:FXD MET FLM	953K OHM 1% 1/2W
R 613	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W
R 614	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 615	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 616	1	ERO50CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W
R 617	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W
R 618	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 619	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R 620	1	ERD25TJ751V	R:FXD CARBON	750 OHM 5% 1/4W
R 621	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 622	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 623	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 624	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 624	1	ERD25TJ910V	R:FXD CARBON	91 OHM 5% 1/4W
R 625	1	ERD25TJ563V	R:FXD CARBON	56K OHM 5% 1/4W
R 626	1	ERD25TJ474V	R:FXD CARBON	470K OHM 5% 1/4W
R 627	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 628	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 629	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	630	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	631	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	632	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	633	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	634	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R	635	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	636	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	637	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	639	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	640	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W
R	641	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	642	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%
R	643	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	644	1	ERD25TJ911V	R:FXD CARBON	910 OHM 5% 1/4W
R	645	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	646	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	647	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	648	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	649	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W
R	650	1	4G440477	P5220A R:VAR CARBON	TRIG LEVEL
R	651	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	652	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	653	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	654	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	655	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	656	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	657	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	658	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	659	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	660	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	661	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	662	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	663	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	664	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	665	1	ERD25TJ430V	R:FXD CARBON	43 OHM 5% 1/4W
R	666	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W
R	667	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	668	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	669	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	670	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	671	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	672	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	673	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R	674	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R	675	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	676	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	677	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R	678	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	679	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	680	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	681	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	682	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	683	1	ERD25TJ331V	R:FXD CARBON	330 OHM 5% 1/4W
R	684	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	685	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	686	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	687	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	688	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	689	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	690	1	ERD25TJ155V	R:FXD CARBON	1.5M OHM 5% 1/4W
R	691	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	692	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	693	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R	694	1	ERD25TJ393V	R:FXD CARBON	39K OHM 5% 1/4W
R	695	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R	696	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	697	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	698	1	TM64K2PV2-15	R:VAR CERMET	100K OHM 20%
R	699	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	700	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	701	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	702	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W
R	703	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W
R	704	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W
R	705	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	708	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	709	1	ERD25TJ680V	R:FXD CARBON	68 OHM 5% 1/4W
R	710	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	712	1	ERO50CKF9533	R:FXD MET FLM	953K OHM 1% 1/2W
R	713	1	ERO25CKF5232	R:FXD MET FLM	52.3K OHM 1% 1/4W
R	714	1	ERO50CKF4993	R:FXD MET FLM	499K OHM 1% 1/2W
R	715	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	717	1	ERO50CKF1004	R:FXD MET FLM	1M OHM 1% 1/2W
R	718	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R	719	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	720	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	721	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	722	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	723	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	724	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	725	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	729	1	TM64K2PV2-22	R:VAR CERMET	200 OHM 20%
R	730	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	731	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	732	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	733	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	734	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R	735	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	737	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	739	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	740	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W
R	741	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	742	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%
R	745	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	746	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	747	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	748	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	749	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W
R	750	1	4G440477	P5220A R:VAR CARBON	TRIG LEVEL
R	751	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	752	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R	753	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	754	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	755	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W
R	756	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	757	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	758	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	759	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	760	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	761	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	762	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	763	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	764	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	765	1	ERD25TJ430V	R:FXD CARBON	43 OHM 5% 1/4W
R	766	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	767	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	768	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	769	1	ERD25TJ510V	R:FXD CARBON	51 OHM 5% 1/4W
R	770	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	771	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	772	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	773	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R	774	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R	775	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	776	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	777	1	ERD25TJ271V	R:FXD CARBON	270 OHM 5% 1/4W
R	778	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	779	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	780	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	781	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	782	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	783	1	ERD25TJ331V	R:FXD CARBON	330 OHM 5% 1/4W
R	784	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	785	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R	786	1	ERO25CKF1101	R:FXD MET FLM	1.10K OHM 1% 1/4W
R	787	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	788	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	789	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	790	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	791	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	792	1	TM64K2PV2-54	R:VAR CERMET	50K OHM 20%
R	793	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	794	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	795	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	796	1	TM64K2PV2-54	R:VAR CERMET	50K OHM 20%
R	797	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	798	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	799	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	800	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	801	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	802	1	ERD25TJ302V	R:FXD CARBON	3K OHM 5% 1/4W
R	803	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	804	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	805	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W
R	806	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W
R	807	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W
R	808	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	809	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	810	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W
R	811	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	812	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	813	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	814	1	ERD25TJ333V	R:FXD CARBON	33K OHM 5% 1/4W
R	815	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W
R	816	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	817	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	818	1	ERD25TJ823V	R:FXD CARBON	82K OHM 5% 1/4W
R	819	1	ERD25TJ823V	R:FXD CARBON	82K OHM 5% 1/4W
R	820	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	821	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W

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REF NO	QTY	PART NO	DESCRIPTION	
R 822	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 823	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 824	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R 825	1	ERO25CKF5621	R:FXD MET FLM	5.62K OHM 1% 1/4W
R 826	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 827	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 828	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R 829	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W
R 830	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R 831	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 832	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 833	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 834	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W
R 835	1	ERD25TJ511V	R:FXD CARBON	510 OHM 5% 1/4W
R 836	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 837	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R 838	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W
R 839	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R 840	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%
R 841	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 842	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%
R 844	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 845	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 846	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R 847	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 848	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R 849	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 850	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R 851	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W
R 852	1	ERO25CKF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W
R 853	1	ERO25CKF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W
R 854	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R 855	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R 856	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 857	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 858	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 859	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 860	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 861	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 862	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R 863	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 864	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R 865	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R 866	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W
R 867	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	868	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W
R	869	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W
R	870	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	871	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	872	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R	873	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	874	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	875	1	ERD25TJ823V	R:FXD CARBON	82K OHM 5% 1/4W
R	876	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	877	1	ERD25TJ823V	R:FXD CARBON	82K OHM 5% 1/4W
R	878	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	879	1	ERD25TJ392V	R:FXD CARBON	3.9K OHM 5% 1/4W
R	880	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	881	1	ERD25TJ333V	R:FXD CARBON	33K OHM 5% 1/4W
R	882	1	ERO25CKF4531	R:FXD MET FLM	4.53K OHM 1% 1/4W
R	883	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	884	1	ERD25TJ622V	R:FXD CARBON	6.2K OHM 5% 1/4W
R	885	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W
R	886	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R	887	1	ERD25TJ752V	R:FXD CARBON	7.5K OHM 5% 1/4W
R	888	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	889	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	890	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R	891	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	892	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R	893	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	894	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	895	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	896	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	897	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W
R	898	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	899	1	ERD25TJ512V	R:FXD CARBON	5.1K OHM 5% 1/4W
R	900	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	901	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	902	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R	903	1	ERO25CKF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W
R	904	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	905	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	906	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R	907	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%
R	908	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	910	1	ERO25CKF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W
R	911	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%
R	912	1	ERO25CKF9091	R:FXD MET FLM	9.09K OHM 1% 1/4W
R	913	1	ERO25CKF2742	R:FXD MET FLM	27.4K OHM 1% 1/4W

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REF	NO	QTY	PART NO	DESCRIPTION	
R	914	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	915	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	915	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	916	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	917	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	918	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	920	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	921	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	922	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	923	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	926	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	927	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	928	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	929	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	948	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W
R	970	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	971	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	972	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R	973	1	ERO25CKF4751	R:FXD MET FLM	4.75K OHM 1% 1/4W
R	977	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%
R	981	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%
R	982	1	ERO25CKF9091	R:FXD MET FLM	9.09K OHM 1% 1/4W
R	983	1	ERO25CKF2742	R:FXD MET FLM	27.4K OHM 1% 1/4W
R	984	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	991	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	992	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	993	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	994	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R	995	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	996	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W
R	997	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R	998	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R	999	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
S	601	1	82S03	LEVER SW	
S	602	1	82S03	LEVER SW	
S	701	1	82S03	LEVER SW	
S	702	1	82S03	LEVER SW	
U	621	1	EHM826W19A	P5230A HI MIC	TV SWEEP
U	681	1	HD10107	IC:ECL	TRIPLE 2-IN X OR/NOR
U	781	1	HD10107	IC:ECL	TRIPLE 2-IN X OR/NOR
U	801	1	HD10131	IC:ECL	DUAL D MASTER-SLAVE F-F
U	802	1	SN74LS123N	IC:TTL LS	DUAL MONO MULTIVIBRATOR

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REF NO	QTY	PART NO	DESCRIPTION	
U 803	1	SN74LS112N	IC:TTL LS	DUAL J-K FLIP-FLOP
U 804	1	SN74LS132N	IC:TTL LS	QUAD 2-IN NAND SCHMITT
U 805	1	SN7409N	IC:TTL	QUAD 2-IN AND GATE O/C
U 806	1	SN74LS132N	IC:TTL LS	QUAD 2-IN NAND SCHMITT
U 807	1	HD10131	IC:ECL	DUAL D MASTER-SLAVE F-F
U 808	1	SN74LS132N	IC:TTL LS	QUAD 2-IN NAND SCHMITT
U 821	1	EHM210A45A	P5230A HI MIC	DARLINTON
U 822	1	EHM210A45A	P5230A HI MIC	DARLINTON
U 901	1	EHM215E33	P5230A HI MIC	A SWEEP TIME
U 971	1	EHM216E34	P5230A HI MIC	A SWEEP TIME
U 991	1	SN74LS112N	IC:TTL LS	DUAL J-K FLIP-FLOP
U 992	1	SN74LS00N	IC:TTL LS	QUAD 2-INPUT NAND GATE
U 993	1	SN74LS00N	IC:TTL LS	QUAD 2-INPUT NAND GATE
U 994	1	SN74LS10N	IC:TTL LS	TRIPLE 3-INPUT NAND GATE
U 997	1	UPC1430SH	IC:V RGLTR	+5V 1A
VR 667	1	RD5.6EB3	DIODE:ZENER	5.7V 500MW
VR 767	1	RD5.6EB3	DIODE:ZENER	5.7V 500MW
VR 855	1	RD7.5EB3	DIODE:ZENER	7.4V 500MW
VR 898	1	RD7.5EB3	DIODE:ZENER	7.4V 500MW

POWER ASSY DWG NO 4G204442

REF NO	QTY	PART NO	DESCRIPTION	
C 1004	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 1006	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 1012	1	ECEA1AU101	C:FXD AL ELECT	100UF +-20% 10V
C 1018	1	ECCW1H221K5	C:FXD CER TC	220PF +-10% 50V SL
C 1022	1	ECEA1AU101	C:FXD AL ELECT	100UF +-20% 10V
C 1028	1	ECCW1H680KC5	C:FXD CER TC	68PF +-10% 50V NPO
C 1060	1	ECBT1H121K	C:FXD CER TC	120PF +-10% 50V
C 1072	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1074	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1076	1	ECV1ZW20X53T	C:VAR CER	20PF
C 1077	1	ECCW2H010CC	C:FXD CER TC	1PF +-0.25PF 500V NPO
C 1079	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1082	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1086	1	ECV1ZW20X53T	C:VAR CER	20PF
C 1087	1	ECCW2H020CC	C:FXD CER TC	2PF +-0.25PF 500V NPO
C 1088	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1092	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1093	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1094	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1095	1	ECEA1CU470	C:FXD AL ELECT	47UF +-20% 16V
C 1096	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 1097	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1125	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV
C 1126	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV
C 1156	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 1168	1	ECCW1H010CC5	C:FXD CER TC	1PF +-0.25PF 50V NPO
C 1169	1	ECCF1H010CC	C:FXD CER TC	1PF +-0.25PF 50V NPO
C 1171	1	ECV1ZW04X53T	C:VAR CER	4PF
C 1172	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1174	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 1176	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1177	1	ECKD2H222KB2	C:FXD CER HI-K	2200PF +-10% 500V
C 1184	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1190	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1195	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1201	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1202	1	ECES1EV472S	C:FXD AL ELECT	4700UF +30%-10% 25V
C 1203	1	ECES1EV472S	C:FXD AL ELECT	4700UF +30%-10% 25V
C 1204	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1205	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1207	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1221	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1222	1	ECES1CV472S	C:FXD AL ELECT	4700UF +30%-10% 16V
C 1231	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1232	1	ECEA2AU221	C:FXD AL ELECT	220UF +-20% 100V

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REF NO	QTY	PART NO	DESCRIPTION	
C 1250	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1251	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1252	1	ECEA2AU221	C:FXD AL ELECT	220UF +-20% 100V
C 1253	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1255	1	ECKW1H473ZF5	C:FXD CER HI-K	47000PF +80-20% 50V
C 1256	1	ECEA35Z4R7	C:FXD AL ELECT	4.7UF +-20% 35V
CR 1030	1	MA150TA	DIODE:SI	100MA 35V
CR 1034	1	MA150TA	DIODE:SI	100MA 35V
CR 1049	1	MA150TA	DIODE:SI	100MA 35V
CR 1051	1	MA150TA	DIODE:SI	100MA 35V
CR 1052	1	MA150TA	DIODE:SI	100MA 35V
CR 1058	1	MA150TA	DIODE:SI	100MA 35V
CR 1059	1	MA150TA	DIODE:SI	100MA 35V
CR 1061	1	MA150TA	DIODE:SI	100MA 35V
CR 1062	1	MA150TA	DIODE:SI	100MA 35V
CR 1124	1	1SS83TP	DIODE:SWITCHING	200MA 250V
CR 1125	1	1SS83TP	DIODE:SWITCHING	200MA 250V
CR 1126	1	1SS83TP	DIODE:SWITCHING	200MA 250V
CR 1153	1	MA150TA	DIODE:SI	100MA 35V
CR 1161	1	MA150TA	DIODE:SI	100MA 35V
CR 1178	1	1SS83TP	DIODE:SWITCHING	200MA 250V
CR 1201	1	S3V10	DIODE:PWR RECT	3.5A 100V
CR 1202	1	S3V10	DIODE:PWR RECT	3.5A 100V
CR 1203	1	S3V10	DIODE:PWR RECT	3.5A 100V
CR 1204	1	S3V10	DIODE:PWR RECT	3.5A 100V
CR 1205	1	MA150TA	DIODE:SI	100MA 35V
CR 1206	1	MA150TA	DIODE:SI	100MA 35V
CR 1221	1	S1RBA40F	DIODE:PWR RECT	1A 400V
CR 1231	1	S1RBA60F	DIODE:PWR RECT	1A 600V
CR 1251	1	S1RBA40F	DIODE:PWR RECT	1A 400V
E 1201	1	1G401229-4	P5512A PC BOARD	
F 1101	1	TSC1A	FUSE	1A 250V 20MM
F 1253	1	SC100MA	FUSE	100MA 250V 20MM
J 1201	1	EMCS1060	CONNECTOR:PIN	PLUG 10P
J 1202	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1203	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1204	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1205	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1206	1	EMCS1060	CONNECTOR:PIN	PLUG 10P
J 1207	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1209	1	163680-3	CONNECTOR	CIS 5P 2.5PITCH
J 1210	1	1-380991-0	CONNECTOR	PIN HEADER 10P

POWER ASSY DWG NO 4G204442

REF	NO	QTY	PART NO	DESCRIPTION	
L	1091	1	ELEH5R6KA	COIL:CHOKE	5.6UH 10%
L	1097	1	ELEH5R6KA	COIL:CHOKE	5.6UH 10%
L	1196	1	ELEH5R6KA	COIL:CHOKE	5.6UH 10%
L	1197	1	ELEH5R6KA	COIL:CHOKE	5.6UH 10%
M	1180	1	75A049-TM3	TIMER	100HR
MP	341	1	4G616694-0DB	P5220A CLAMP:TR-3	
MP	342	1	4G616694-0DB	P5220A CLAMP:TR-3	
MP	343	1	4G617081-0CB	P5512A HEAT SINK:POWER	
Q	1000	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	1001	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	1002	1	2SC2901	TSTR:SI NPN	PC:600MW FT:750MHZ
Q	1003	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	1004	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	1005	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	1006	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	1007	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	1008	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	1009	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q	1010	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	1011	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	1012	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	1013	1	2SB648A	TSTR:SI PNP	PC:1W FT:140MHZ
Q	1014	1	2SD668A	TSTR:SI NPN	PC:1W FT:140MHZ
Q	1021	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	1022	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	1023	1	2SB648A	TSTR:SI PNP	PC:1W FT:140MHZ
Q	1024	1	2SD668A	TSTR:SI NPN	PC:1W FT:140MHZ
Q	1030	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	1133	1	2SA879NC	TSTR:SI PNP	PC:1W
Q	1134	1	2SA879NC	TSTR:SI PNP	PC:1W
Q	1135	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q	1151	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q	1152	1	2SC1215	TSTR:SI NPN	PC:200MW FT:1200MHZ
Q	1153	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
Q	1154	1	2SA1206	TSTR:SI PNP	PC:600MW FT:1000MHZ
Q	1155	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ
Q	1156	1	2SA914	TSTR:SI PNP	PC:1W FT:200MHZ
Q	1180	1	2SC1509-RS	TSTR:SI NPN	PC:750MW FT:120MHZ
Q	1181	1	2SA777-RS	TSTR:SI PNP	PC:750MW FT:120MHZ
Q	1182	1	2SC1509-RS	TSTR:SI NPN	PC:750MW FT:120MHZ
Q	1183	1	2SA777-RS	TSTR:SI PNP	PC:750MW FT:120MHZ
Q	1185	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ

POWER ASSY DWG NO 4G204442

REF NO	QTY	PART NO	DESCRIPTION	
R 1003	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 1004	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R 1005	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R 1006	1	ERD25TJ124V	R:FXD CARBON	120K OHM 5% 1/4W
R 1008	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R 1009	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 1011	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W
R 1012	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 1013	1	ERO25CKF2431	R:FXD MET FLM	2.43K OHM 1% 1/4W
R 1014	1	ERO25CKF2431	R:FXD MET FLM	2.43K OHM 1% 1/4W
R 1015	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W
R 1016	1	ERD25TJ272V	R:FXD CARBON	2.7K OHM 5% 1/4W
R 1017	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W
R 1018	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R 1019	1	ERO25CKF2431	R:FXD MET FLM	2.43K OHM 1% 1/4W
R 1022	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 1023	1	ERO25CKF6810	R:FXD MET FLM	681 OHM 1% 1/4W
R 1024	1	ERO25CKF6810	R:FXD MET FLM	681 OHM 1% 1/4W
R 1025	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 1026	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R 1027	1	ERO25CKF47R5	R:FXD MET FLM	47.5 OHM 1% 1/4W
R 1028	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 1029	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 1030	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 1032	1	ERD25TJ621V	R:FXD CARBON	620 OHM 5% 1/4W
R 1033	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 1034	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 1035	1	ERO25CKF1131	R:FXD MET FLM	1.13K OHM 1% 1/4W
R 1036	1	ERO25CKF8251	R:FXD MET FLM	8.25K OHM 1% 1/4W
R 1037	1	ERO25CKF1690	R:FXD MET FLM	169 OHM 1% 1/4W
R 1041	1	ERO25CKF1741	R:FXD MET FLM	1.74K OHM 1% 1/4W
R 1042	1	ERO25CKF1741	R:FXD MET FLM	1.74K OHM 1% 1/4W
R 1043	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%
R 1044	1	ERO25CKF1001	R:FXD MET FLM	1K OHM 1% 1/4W
R 1045	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R 1047	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R 1048	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 1049	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 1051	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W
R 1052	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W
R 1053	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 1054	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 1055	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 1061	1	ERO25CKF1021	R:FXD MET FLM	1.02K OHM 1% 1/4W
R 1062	1	ERO25CKF1021	R:FXD MET FLM	1.02K OHM 1% 1/4W

POWER ASSY DWG NO 4G204442

REF NO	QTY	PART NO	DESCRIPTION	
R 1063	1	CR19R471B	R:VAR CERMET	470 OHM 25% 1/2W
R 1065	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 1066	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 1067	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 1068	1	ERG1ANJ512H	R:FXD MET OXD	5.1K OHM 5% 1W
R 1069	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 1070	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 1071	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 1072	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W
R 1073	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W
R 1074	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 1075	1	ERG2ANJ153	R:FXD MET OXD	15K OHM 5% 2W
R 1076	1	ERG1ANJ682H	R:FXD MET OXD	6.8K OHM 5% 1W
R 1077	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 1078	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 1079	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R 1080	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R 1081	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 1082	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W
R 1083	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W
R 1084	1	ERD25TJ391V	R:FXD CARBON	390 OHM 5% 1/4W
R 1084	1	ERD25TJ431V	R:FXD CARBON	430 OHM 5% 1/4W
R 1085	1	ERG2ANJ153	R:FXD MET OXD	15K OHM 5% 2W
R 1086	1	ERG1ANJ512H	R:FXD MET OXD	5.1K OHM 5% 1W
R 1087	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 1088	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 1089	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R 1090	1	ERG1ANJ682H	R:FXD MET OXD	6.8K OHM 5% 1W
R 1092	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 1125	1	ERD25TJ122V	R:FXD CARBON	1.2K OHM 5% 1/4W
R 1127	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 1128	1	ERC14GK226	R:FXD COMP	22M OHM 10% 1/4W
R 1129	1	HMG12HJ335	R:FXD MET GRZ	3.3M OHM 5% 1/2W
R 1131	1	CR19R225B	R:VAR CERMET	2.2M OHM 25% 1/2W
R 1132	1	HMG12HJ475	R:FXD MET GRZ	4.7M OHM 5% 1/2W
R 1133	1	HMG12HJ155	R:FXD MET GRZ	1.5M OHM 5% 1/2W
R 1134	1	HMG12HJ155	R:FXD MET GRZ	1.5M OHM 5% 1/2W
R 1135	1	ERD25TJ471V	R:FXD CARBON	470 OHM 5% 1/4W
R 1136	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W
R 1137	1	ERD25TJ203V	R:FXD CARBON	20K OHM 5% 1/4W
R 1138	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 1139	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 1145	1	CR19R223B	R:VAR CERMET	22K OHM 25% 1/2W
R 1146	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 1147	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W

POWER ASSY DWG NO 4G204442

REF	NO	QTY	PART NO	DESCRIPTION	
R	1148	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	1151	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	1152	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	1153	1	ERD25TJ392V	R:FXD CARBON	3.9K OHM 5% 1/4W
R	1154	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	1155	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R	1156	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	1157	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	1158	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R	1159	1	ERD25TJ682V	R:FXD CARBON	6.8K OHM 5% 1/4W
R	1161	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W
R	1162	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R	1163	1	ERD25TJ183V	R:FXD CARBON	18K OHM 5% 1/4W
R	1164	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R	1165	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R	1167	1	ERO25CKF3012	R:FXD MET FLM	30.1K OHM 1% 1/4W
R	1168	1	ERO25CKF2052	R:FXD MET FLM	20.5K OHM 1% 1/4W
R	1169	1	ERD25TJ105V	R:FXD CARBON	1M OHM 5% 1/4W
R	1170	1	ERD25TJ240V	R:FXD CARBON	24 OHM 5% 1/4W
R	1171	1	ERD25TJ333V	R:FXD CARBON	33K OHM 5% 1/4W
R	1172	1	ERD25TJ753V	R:FXD CARBON	75K OHM 5% 1/4W
R	1173	1	ERD25TJ182V	R:FXD CARBON	1.8K OHM 5% 1/4W
R	1174	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R	1175	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R	1176	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R	1177	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R	1178	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R	1182	1	CR19R473B	R:VAR CERMET	47K OHM 25% 1/2W
R	1184	1	CR19R224B	R:VAR CERMET	220K OHM 25% 1/2W
R	1185	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W
R	1186	1	ERD25TJ154V	R:FXD CARBON	150K OHM 5% 1/4W
R	1187	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W
R	1188	1	ERO25CKF9311	R:FXD MET FLM	931 OHM 1% 1/4W
R	1189	1	ERO25CKF5620	R:FXD MET FLM	562 OHM 1% 1/4W
R	1190	1	ERO50CKF9533	R:FXD MET FLM	953K OHM 1% 1/2W
R	1191	1	ERD25TJ132V	R:FXD CARBON	1.3K OHM 5% 1/4W
R	1194	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R	1201	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	1205	1	ERO25CKF4120	R:FXD MET FLM	412 OHM 1% 1/4W
R	1206	1	ERO25CKF2871	R:FXD MET FLM	2.87K OHM 1% 1/4W
R	1207	1	ERO25CKF2551	R:FXD MET FLM	2.55K OHM 1% 1/4W
R	1208	1	CR29R471B	R:VAR CERMET	470 OHM 25% 1/2W
R	1209	1	ERO25CKF4120	R:FXD MET FLM	412 OHM 1% 1/4W
R	1222	1	ERD25TJ473V	R:FXD CARBON	47K OHM 5% 1/4W
R	1232	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W

POWER ASSY DWG NO 4G204442

REF	NO	QTY	PART NO	DESCRIPTION	
R	1250	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	1253	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R	1255	1	ERD25TJ333V	R:FXD CARBON	33K OHM 5% 1/4W
R	1256	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
U	1201	1	LM317T	IC:V RGLTR	
U	1202	1	LM337T	IC:V RGLTR	-1.2V TO -37V 1.5A
V	1127	1	77V03	LAMP;NEON	
V	1128	1	77V03	LAMP;NEON	
VR	1056	1	RD7.5EB3	DIODE:ZENER	7.4V 500MW
VR	1138	1	RD5.6EB3	DIODE:ZENER	5.7V 500MW
VR	1158	1	RD7.5EB3	DIODE:ZENER	7.4V 500MW
XF	1101	1	75A007	FUSE CLIP	
XF	1102	1	75A007	FUSE CLIP	
XF	1180	1	SN5051	FUSE HOLDER	6A 250V
XF	1181	1	SN5051	FUSE HOLDER	6A 250V
XF	1253	1	75A007	FUSE CLIP	
XF	1254	1	75A007	FUSE CLIP	
XV	1127	1	4G614902-0XB	HOLDER:NEON	
XV	1128	1	4G614902-0XB	HOLDER:NEON	

V OUT ASSY DWG NO 4G204443

REF NO	QTY	PART NO	DESCRIPTION	
C 508	1	ECV1ZW10X53T	C:VAR CER	10PF
C 513	1	ECCW1H271KC5	C:FXD CER TC	270PF +-10% 50V NPO
C 514	1	ECCW1H271KC5	C:FXD CER TC	270PF +-10% 50V NPO
C 516	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO
C 517	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO
C 518	1	ECCW1H220KC5	C:FXD CER TC	22PF +-10% 50V NPO
C 519	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C 520	1	ECEA1CN101S	C:FXD AL ELECT	100UF +-20% 16V
C 521	1	ECV1ZW20X53T	C:VAR CER	20PF
C 522	1	ECV1ZW20X53T	C:VAR CER	20PF
C 523	1	ECCW1H181KC5	C:FXD CER TC	180PF +-10% 50V NPO
C 524	1	ECCW1H820KC5	C:FXD CER TC	82PF +-10% 50V NPO
C 525	1	ECQM1H682KZ	C:FXD FLM	6800PF 10% 50V
C 526	1	ECQM1H102KZ	C:FXD FLM	1000PF 10% 50V
C 541	1	ECV1ZW20X53T	C:VAR CER	20PF
C 542	1	ECV1ZW10X53T	C:VAR CER	10PF
C 545	1	ECKW1H102KB5	C:FXD CER HI-K	1000PF +-10% 50V
C 550	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 570	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 571	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 575	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
C 1230	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
C 1240	1	ECKW2H102MD	C:FXD CER HI-K	1000PF +-20% 500V
C 1241	1	ECEA2CS010	C:FXD AL ELECT	1UF +30%-10% 160V
C 1242	1	ECEA2CS010	C:FXD AL ELECT	1UF +30%-10% 160V
CR 516	1	MA150TA	DIODE:SI	100MA 35V
CR 517	1	MA150TA	DIODE:SI	100MA 35V
CR 518	1	MA150TA	DIODE:SI	100MA 35V
CR 519	1	MA150TA	DIODE:SI	100MA 35V
CR 559	1	MA150TA	DIODE:SI	100MA 35V
CR 1238	1	MA150TA	DIODE:SI	100MA 35V
CR 1241	1	MA150TA	DIODE:SI	100MA 35V
E 501	1	2G401315	P5512A PC BOARD	
J 501	1	EMCS1060L	CONNECTOR:PIN	10P ANGLE
J 502	1	EMCS0360	CONNECTOR:PIN	PLUG 3P
L 537	1	4G431289	P5511A COIL	PEAKING
L 538	1	4G431289	P5511A COIL	PEAKING
L 553	1	4G431289	P5511A COIL	PEAKING
L 554	1	4G431289	P5511A COIL	PEAKING
L 555	1	ELEH5R6KA	COIL:CHOKE	5.6UH 10%

V OUT ASSY DWG NO 4G204443

REF	NO	QTY	PART NO	DESCRIPTION	
L	557	1	4G431051-1	P5410C COIL	VERTICAL PEAKING
L	*557	1	ERC12GK241	R:FXD COMP	240 OHM 10% 1/2W
L	558	1	4G431051-1	P5410C COIL	VERTICAL PEAKING
L	*558	1	ERC12GK241	R:FXD COMP	240 OHM 10% 1/2W
L	570	1	ELEH221KA	COIL:CHOKE	220UH 10%
L	575	1	ELEH221KA	COIL:CHOKE	220UH 10%
MP	361	1	3G614026-OCB	P5512A HEAT SINK:V-OUT	
MP	362	1	4G616694-ODB	P5220A CLAMP:TR-3	
MP	363	1	4G670017-2DB	P5511A HEAT SINK	
MP	364	1	R9D	HEAT SINK	
MP	365	1	R9D	HEAT SINK	
Q	501	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	502	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	503	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	504	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	505	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	506	1	2SC2026	TSTR:SI NPN	PC:250MW FT:2000MHZ
Q	507	1	V741	TSTR:SI NPN	PC 800MW
Q	507	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ
Q	508	1	V741	TSTR:SI NPN	PC 800MW
Q	508	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ
Q	509	1	V741	TSTR:SI NPN	PC 800MW
Q	509	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ
Q	510	1	V741	TSTR:SI NPN	PC 800MW
Q	510	1	2SC1252N	TSTR:SI NPN	PC:800MW FT:1700MHZ
Q	511	1	2SC1509-RS	TSTR:SI NPN	PC:750MW FT:120MHZ
Q	561	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	562	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	563	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	564	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	565	1	2SA838	TSTR:SI PNP	PC:250MW FT:300MHZ
Q	566	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	1231	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ
Q	1232	1	2SC1683	TSTR:SI NPN	PC:20W
Q	1233	1	2SC1359-AB	TSTR:SI NPN	PC:250MW FT:300MHZ
Q	1234	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ
R	501	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	502	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R	503	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R	504	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R	505	1	ERD25TJ911V	R:FXD CARBON	910 OHM 5% 1/4W

V OUT ASSY DWG NO 4G204443

REF NO	QTY	PART NO	DESCRIPTION	
R 506	1	ERD25TJ911V	R:FXD CARBON	910 OHM 5% 1/4W
R 507	1	ERO25CKF82R5	R:FXD MET FLM	82.5 OHM 1% 1/4W
R 509	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R 510	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R 511	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 512	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R 513	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 514	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 515	1	ERO25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W
R 516	1	ERO25CKF1000	R:FXD MET FLM	100 OHM 1% 1/4W
R 517	1	ERD25TJ301V	R:FXD CARBON	300 OHM 5% 1/4W
R 518	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 519	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 520	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%
R 521	1	ERO25CKF56R2	R:FXD MET FLM	56.2 OHM 1% 1/4W
R 522	1	TM64K2PV2-13	R:VAR CERMET	1K OHM 20%
R 523	1	TM64K2PV2-53	R:VAR CERMET	5K OHM 20%
R 524	1	TM64K2PV2-23	R:VAR CERMET	2K OHM 20%
R 525	1	TM64K2PV2-24	R:VAR CERMET	20K OHM 20%
R 526	1	TM64K2PV2-14	R:VAR CERMET	10K OHM 20%
R 527	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R 528	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R 529	1	ERD25TJ680V	R:FXD CARBON	68 OHM 5% 1/4W
R 530	1	ERD25TJ680V	R:FXD CARBON	68 OHM 5% 1/4W
R 531	1	ERD25TJ152V	R:FXD CARBON	1.5K OHM 5% 1/4W
R 532	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W
R 533	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 534	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 535	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 536	1	ERD25TJ470V	R:FXD CARBON	47 OHM 5% 1/4W
R 537	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R 538	1	ERO25CKF90R9	R:FXD MET FLM	90.9 OHM 1% 1/4W
R 539	1	ERD25TJ430V	R:FXD CARBON	43 OHM 5% 1/4W
R 541	1	ERO25CKF35R7	R:FXD MET FLM	35.7 OHM 1% 1/4W
R 542	1	TM64K2PV2-12	R:VAR CERMET	100 OHM 20%
R 543	1	ERG2ANG131	R:FXD MET OXD	130 OHM 2% 2W
R 544	1	ERG2ANG131	R:FXD MET OXD	130 OHM 2% 2W
R 545	1	ERD25TJ151V	R:FXD CARBON	150 OHM 5% 1/4W
R 546	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 547	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W
R 548	1	ERD25TJ123V	R:FXD CARBON	12K OHM 5% 1/4W
R 549	1	ERG1ANJ470	R:FXD MET OXD	47 OHM 5% 1W
R 550	1	ERG1ANJ470	R:FXD MET OXD	47 OHM 5% 1W
R 551	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R 552	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W

V OUT ASSY DWG NO 4G204443

REF NO	QTY	PART NO	DESCRIPTION	
R 553	1	RP203AG131	R:FXD MET FLM	130 OHM 2% 2W
R 554	1	RP203AG121	R:FXD MET FLM	120 OHM 2% 2W
R 555	1	RP203AG121	R:FXD MET FLM	120 OHM 2% 2W
R 556	1	RP203AG131	R:FXD MET FLM	130 OHM 2% 2W
R 557	1	ERD25TJ822V	R:FXD CARBON	8.2K OHM 5% 1/4W
R 558	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 559	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
R 560	1	ERD25TJ121V	R:FXD CARBON	120 OHM 5% 1/4W
R 561	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R 562	1	ERD25TJ221V	R:FXD CARBON	220 OHM 5% 1/4W
R 563	1	ERD25TJ751V	R:FXD CARBON	750 OHM 5% 1/4W
R 564	1	ERD25TJ751V	R:FXD CARBON	750 OHM 5% 1/4W
R 565	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R 566	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
R 567	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W
R 568	1	ERD25TJ820V	R:FXD CARBON	82 OHM 5% 1/4W
R 569	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 570	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 571	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W
R 572	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 573	1	ERD25TJ560V	R:FXD CARBON	56 OHM 5% 1/4W
R 574	1	ERD25TJ560V	R:FXD CARBON	56 OHM 5% 1/4W
R 575	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 576	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 577	1	ERD25TJ563V	R:FXD CARBON	56K OHM 5% 1/4W
R 578	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 579	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 581	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R 582	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R 583	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 584	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 585	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R 1230	1	ERD25TJ222V	R:FXD CARBON	2.2K OHM 5% 1/4W
R 1234	1	ERC14GK335	R:FXD COMP	3.3M OHM 10% 1/4W
R 1235	1	ERD25TJ563V	R:FXD CARBON	56K OHM 5% 1/4W
R 1236	1	ERX1ANJ2R2	R:FXD MET OXD	2.2 OHM 5% 1W
R 1238	1	ERD25TJ274V	R:FXD CARBON	270K OHM 5% 1/4W
R 1239	1	ERO25CKF1912	R:FXD MET FLM	19.1K OHM 1% 1/4W
R 1240	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 1241	1	ERO25CKF3921	R:FXD MET FLM	3.92K OHM 1% 1/4W
R 1242	1	ERD25TJ332V	R:FXD CARBON	3.3K OHM 5% 1/4W
RT 521	1	ERTD2FHL102S	THERMISTOR	1K OHM 15%

MAIN FRAME ASSY DWG NO 4G204444

REF NO	QTY	PART NO	DESCRIPTION	
	6	001P1100	CONNECTOR:PIN	
	2	350689-1	CONNECTOR	MATE-N-LOK CONTACT SOC
	10	61173-1	CONNECTOR	MATE-N-LOK CONTACT SOC
C 011	1	ECCF1H180KC	C:FXD CER TC	18PF +-10% 50V NPO
C 012	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V
C 013	1	ECCF1H100FC	C:FXD CER TC	10PF +-1.0PF 50V NPO
C 014	1	ECCF1H151K	C:FXD CER TC	150PF +-10% 50V SL
C 021	1	ECCF1H180KC	C:FXD CER TC	18PF +-10% 50V NPO
C 022	1	MD12J473M	C:FXD FLM	0.047UF 20% 630V
C 023	1	ECCF1H100FC	C:FXD CER TC	10PF +-1.0PF 50V NPO
C 024	1	ECCF1H151K	C:FXD CER TC	150PF +-10% 50V SL
C 803	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V
C 804	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V
C 805	1	ECBT1H102KB	C:FXD CER TC	1000PF +-10% 50V
C 1286	1	ECQP1103FZ	C:FXD FLM	0.01UF 1% 100V
C 1288	1	ECQP1103FZ	C:FXD FLM	0.01UF 1% 100V
C 1291	1	ECKW1H103ZF5	C:FXD CER HI-K	10000PF +80-20% 50V
C 1292	1	ECEA1CU100	C:FXD AL ELECT	10UF +-20% 16V
DL 501	1	74W010	DELAY LINE	DIL 120NS 186 OHM
DS 154	1	AR4133S	LED	RED
DS 254	1	AR4133S	LED	RED
DS 511	1	AR4133S	LED	RED
DS 812	1	BG4133S	LED	GREEN
DS 1299	1	SY403DA	LED	UMBER
E 841	1	D12	CONTROL KNOB	
E 1001	1	2G401285-1	P5512A PC BOARD	
J 011	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK
J 021	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK
J 101	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 201	1	EMCS1060	CONNECTOR:PIN	PLUG 10P
J 202	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 400	1	EMCS1060L	CONNECTOR:PIN	10P ANGLE
J 498	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK
J 601	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK
J 615	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE
J 701	1	UG625UNI	CONNECTOR:COAX	BNC PANEL JACK
J 800	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE
J 801	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE
J 802	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE
J 803	1	EMCS1060L	CONNECTOR:PIN	10P ANGLE
J 804	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE

MAIN FRAME ASSY DWG NO 4G204444

REF NO	QTY	PART NO	DESCRIPTION	
J 805	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 806	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 812	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
J 815	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE
J 816	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 851	1	BNC071	CONNECTOR:COAX	BNC PLUG
J 891	1	BNC071	CONNECTOR:COAX	BNC PLUG
J 1152	1	BNC071	CONNECTOR:COAX	BNC PLUG
J 1200	1	CM3	CONNECTOR	PWR JACK 3P
J 1252	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1253	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1254	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1255	1	EMCS0560	CONNECTOR:PIN	PLUG 5P
J 1290	1	163683-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
L 1181	1	4G431295	P5220A COIL	ROTATION
L 1182	1	4G431322-1	P5512A COIL	
P 101	1	EMCB0530A56V	CONNECTOR	5P L=300MM
P 201	1	EMCB1030A56V	CONNECTOR	10P L=300MM
P 202	1	EMCB0530A51	CONNECTOR	5P L=300MM
P 300	1	EMCB1050A56V	CONNECTOR	10P L=500MM
P 303	1	EMCB1050A56V	CONNECTOR	10P L=500MM
P 304	1	EMCB0520A56V	CONNECTOR	5P L=200MM
P 305	1	EMCB0550A56V	CONNECTOR	
P 307	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 308	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 309	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 319	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 501	1	EMCB1010A56V	CONNECTOR	10P L=100MM
P 502	1	EMCB0370A51	CONNECTOR	3P L=700MM
P 615	1	EMCB0540A56V	CONNECTOR	5P L=400MM
P 800	1	EMCB0520A56V	CONNECTOR	5P L=200MM
P 801	1	EMCB0550A56V	CONNECTOR	
P 802	1	EMCB0520A56V	CONNECTOR	5P L=200MM
P 804	1	EMCB0510A56V	CONNECTOR	5P L=100MM
P 805	1	EMCB0510A56V	CONNECTOR	5P L=100MM
P 806	1	EMCB0510A56V	CONNECTOR	5P L=100MM
P 812	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 904	1	EMCB0530A56V	CONNECTOR	5P L=300MM
P 906	1	EMCB1030A56V	CONNECTOR	10P L=300MM
P 907	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 908	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH

MAIN FRAME ASSY DWG NO 4G204444

REF NO	QTY	PART NO	DESCRIPTION	
P 909	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 910	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 911	1	EMCB0540A56V	CONNECTOR	5P L=400MM
P 912	1	EMCB0540A56V	CONNECTOR	5P L=400MM
P 913	1	EMCB0530A56V	CONNECTOR	5P L=300MM
P 918	1	163690-1	CONNECTOR:PIN	CIS 3P 2.5PITCH
P 1106	1	1-480700-0	CONNECTOR	3P
P 1107	1	EMCB0520A56V	CONNECTOR	5P L=200MM
P 1202	1	EMCB0530A56V	CONNECTOR	5P L=300MM
P 1203	1	EMCB0540A56V	CONNECTOR	5P L=400MM
P 1205	1	EMCB0550A56V	CONNECTOR	
P 1209	1	163690-3	CONNECTOR:PIN	CIS 5P 2.5PITCH
P 1210	1	1-480285-0	CONNECTOR	MATE-N-LOK 10P PLUG
Q 960	1	2SC2258	TSTR:SI NPN	PC:1W FT:100MHZ
Q 1280	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q 1285	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
Q 1286	1	2SA564A-RS	TSTR:SI PNP	PC:250MW FT:80MHZ
R 011	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 012	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W
R 014	1	ERD10TJ100	R:FXD CARBON	10 OHM 5% 1/8W
R 021	1	ERD25TJ220V	R:FXD CARBON	22 OHM 5% 1/4W
R 022	1	ERD25TJ750V	R:FXD CARBON	75 OHM 5% 1/4W
R 024	1	ERD10TJ100	R:FXD CARBON	10 OHM 5% 1/8W
R 179	1	EWKENA506B52	R:VAR CARBON	500 OHMX2 20% 1/5W
R 279	1	EWKZ03Z12B52	R:VAR CARBON	
R 499	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R 511	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W
R 588	1	82R12	R:VAR CARBON	100K OHMX2 20% 1/10W
R 638	1	82R14	R:VAR CARBON	20K OHMX2 20% 1/10W
R 738	1	82R14	R:VAR CARBON	20K OHMX2 20% 1/10W
R 812	1	ERD25TJ681V	R:FXD CARBON	680 OHM 5% 1/4W
R 841	1	3540S82-502	P5530A R:VAR WW	5K OHM 5% LIN 0.25%
R 843	1	ERD25TJ433V	R:FXD CARBON	43K OHM 5% 1/4W
R 844	1	82R20	R:VAR CARBON	100K+20K OHM 20% 1/20W
R 916	1	ERD25TJ101V	R:FXD CARBON	100 OHM 5% 1/4W
R 917	1	ERD25TJ203V	R:FXD CARBON	20K OHM 5% 1/4W
R 968	1	ERD25TJ104V	R:FXD CARBON	100K OHM 5% 1/4W
R 1001	1	82R13	R:VAR CARBON	20K OHMX3 20% 1/10W
R 1140	1	82R12	R:VAR CARBON	100K OHMX2 20% 1/10W
R 1143	1	82R11	R:VAR CARBON	10K OHMX2 20% 1/10W
R 1180	1	ERD25TJ223V	R:FXD CARBON	22K OHM 5% 1/4W
R 1181	1	82R19	R:VAR CARBON	20K OHMX2 20% 1/10W

MAIN FRAME ASSY DWG NO 4G204444

REF NO	QTY	PART NO	DESCRIPTION	
R 1215	1	82R18	R:VAR MET GRZ	100 OHMX2 20% 1.5W
R 1280	1	ERO25CKF60R4	R:FXD MET FLM	60.4 OHM 1% 1/4W
R 1281	1	ERO25CKF1691	R:FXD MET FLM	1.69K OHM 1% 1/4W
R 1282	1	TM64K2PV2-52	R:VAR CERMET	500 OHM 20%
R 1283	1	ERD25TJ273V	R:FXD CARBON	27K OHM 5% 1/4W
R 1284	1	ERO25CKF3161	R:FXD MET FLM	3.16K OHM 1% 1/4W
R 1286	1	ERO25CKF3921	R:FXD MET FLM	3.92K OHM 1% 1/4W
R 1287	1	ERO25CKF1433	R:FXD MET FLM	143K OHM 1% 1/4W
R 1288	1	ERO25CKF1433	R:FXD MET FLM	143K OHM 1% 1/4W
R 1289	1	ERO25CKF3921	R:FXD MET FLM	3.92K OHM 1% 1/4W
R 1291	1	ERO25CKF2801	R:FXD MET FLM	2.80K OHM 1% 1/4W
R 1292	1	ERD25TJ4R7V	R:FXD CARBON	4.7 OHM 5% 1/4W
R 1299	1	ERD25TJ821V	R:FXD CARBON	820 OHM 5% 1/4W
S 011	1	79S29	P5230A LEVER SW	AC-DC
S 021	1	79S29	P5230A LEVER SW	AC-DC
S 401	1	82S04	PUSHB SW	
S 501	1	82S12	PUSHB SW	
S 801	1	82S13	PUSHB SW	
S 1201	1	ESB70294	PUSHB SW	DPDT 3A-250V AC
S 1202	1	ESD3921T	LEVER SW	
S 1203	1	ESD3921T	LEVER SW	
T 1201	1	3G430486-2	P5512A TRNSFORMER	
V 1100	1	150CDB31T	CRT	
XDS 154	1	GD-4-505	LED SOCKET	
XDS 254	1	GD-4-505	LED SOCKET	
XDS 511	1	GD-4-505	LED SOCKET	
XDS 812	1	GD-4-505	LED SOCKET	
XDS 1211	1	EQ003-25009A	LAMP SOCKET	
XDS 1212	1	EQ003-25009A	LAMP SOCKET	
XDS 1213	1	EQ003-25009A	LAMP SOCKET	
XF 1201	1	FEU031.1653	FUSE HOLDER	SEV,VDE,SEMKO,UL AND CSA
XF 1202	1	FEK031.1663	FUSE HOLDER CAP	5X20MM FUSE

H.V.SUPPLY DWG NO 4G204445

REF NO	QTY	PART NO	DESCRIPTION	
C 1101	1	ECEA1VU471E	C:FXD AL ELECT	470UF +-20% 35V
C 1103	1	ECQM1H224KZ	C:FXD FLM	0.22UF 10% 50V
C 1105	1	ECQM1H224KZ	C:FXD FLM	0.22UF 10% 50V
C 1108	1	ECKD3F102MB	C:FXD CER HI-K	1000PF +-20% 3KV
C 1111	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV
C 1112	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV
C 1113	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV
C 1114	1	D6300YZ332P3	C:FXD CER HI-K	3300PF +100-0% 3KV
C 1120	1	ECCW2H050DC	C:FXD CER TC	5PF +-0.5PF 500V NPO
C 1121	1	ECKW2H103PE8	C:FXD CER HI-K	10000PF +100-0% 500V
CR 1112	1	MA150TA	DIODE:SI	100MA 35V
CR 1113	1	ED15TV1	DIODE:PWR RECT	30MA 15KV
CR 1123	1	1SS83TP	DIODE:SWITCHING	200MA 250V
E 1101	1	3G401271-2	P5512A PC BOARD	
J 1103	1	163680-1	CONNECTOR	CIS 3P 2.5PITCH
J 1106	1	1-350947-0	CONNECTOR	3P
J 1107	1	EMCS0560L	CONNECTOR:PIN	5P ANGLE
MP 381	1	4G615626-1C	P5503A BAND:TRANS	
Q 1101	1	2SD389-PQ	TSTR:SI NPN	PC:25W FT:25MHZ
Q 1102	1	2SA777-RS	TSTR:SI PNP	PC:750MW FT:120MHZ
Q 1103	1	2SC828A-RS	TSTR:SI NPN	PC:250MW FT:220MHZ
R 1100	1	ERX2ANJ2R2	R:FXD MET OXD	2.2 OHM 5% 2W
R 1101	1	ERD25TJ242V	R:FXD CARBON	2.4K OHM 5% 1/4W
R 1102	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 1103	1	ERD50TJ511	R:FXD CARBON	510 OHM 5% 1/2W
R 1104	1	ERD25TJ102V	R:FXD CARBON	1K OHM 5% 1/4W
R 1105	1	ERD25TJ103V	R:FXD CARBON	10K OHM 5% 1/4W
R 1106	1	CR29R473B	R:VAR CERMET	47K OHM 25% 0.15W
R 1107	1	ERO25CKF2493	R:FXD MET FLM	249K OHM 1% 1/4W
R 1108	1	HMG1G246	R:FXD MET GRZ	24M OHM 5% 1W
R 1109	1	ERD25TJ100V	R:FXD CARBON	10 OHM 5% 1/4W
R 1110	1	ERO25CKF2493	R:FXD MET FLM	249K OHM 1% 1/4W
R 1111	1	ERD50TJ473	R:FXD CARBON	47K OHM 5% 1/2W
R 1112	1	ERD25TJ153V	R:FXD CARBON	15K OHM 5% 1/4W
R 1121	1	CR29R104B	R:VAR CERMET	100K OHM 25% 1/2W
R 1122	1	ERD25TJ472V	R:FXD CARBON	4.7K OHM 5% 1/4W
R 1123	1	HMG1G825	R:FXD MET GRZ	8.2M OHM 2% 1W
T 1101	1	3G430487	P5512A TRANSFORMER	HV
U 1111	1	83A11	P5512A DIODE POWER	

H.V.SUPPLY DWG NO 4G204445

REF NO	QTY	PART NO	DESCRIPTION	
VR 1119	1	RD12EB3	DIODE:ZENER	12.2V 500MW
VR 1120	1	RD33EB4	DIODE:ZENER	32.5V 500MW
VR 1121	1	RD33EB4	DIODE:ZENER	32.5V 500MW

CABLE,ACCESSORY DWG NO 4G204989

REF NO	QTY	PART NO	DESCRIPTION	
	2	ERL14P905110	R:FIX MET GRZ	9M OHM 110PF
	2	1C026-11	C:FXD CER TC	11PF 5% 500V
E 001	1	VQ057S21P	10:1 - 1:1 PROBE 1.5M	
E 002	1	VQ057S21P	10:1 - 1:1 PROBE 1.5M	
F 1201	1	IEC1AT	FUSE : TIME LAG	1A 250V 20MM
F 1202	1	IEC1AT	FUSE : TIME LAG	1A 250V 20MM
MP 403	1	4G601210-0W	ADAPTER:BNC CONN	
MP 404	1	4G601210-0W	ADAPTER:BNC CONN	
MP 405	1	4G634279-0W	P5512P LABEL:IDENT	
MP 411	1	4G712667-0W	P6801P LABEL:PC-UPPER	
MP 412	1	3G710833-0W	P6801P LABEL:PC-L	
MP 413	1	3G710833-0W	P6801P LABEL:PC-L	
MP 414	1	3G710833-0W	P6801P LABEL:PC-L	
P 1200	1	33-76B-2M	CABLE:PWR (UL,CSA)	125V 7A
V **	1	BQ041-23303A	LAMP:INCD	6V 0.2A
V 1211	1	BQ041-23303A	LAMP:INCD	6V 0.2A
V 1212	1	BQ041-23303A	LAMP:INCD	6V 0.2A
V 1213	1	BQ041-23303A	LAMP:INCD	6V 0.2A

MECHA DWG NO 4G302691-1

REF NO	QTY	PART NO	DESCRIPTION
	1	2G611522-0YB	P5512A SUPPORTER:CRT
	1	4G615880-0YB	P5230A TERMINAL:CALIB
	2	4G720153-0FB	P562A BOSS 3MX5-1.5
	1	4G720519-0BB	TERMINAL-F:BODY
	1	4G720520-0JB	TERMINAL-F:NUT-1
	1	4G720521-0KB	TERMINAL-F:NUT-2
	5	4G720564-0F	P5512A BOSS M3X15.5-2
	1	4G720565-0F	P5512A BOSS M3X5-1.2
	1	4G720570-1F	P5512A BOSS M3X17-1.5
	1	4G760555-0C	CAP,D23 KNOB-U
MP 1	1	A66A-82M31	P5512A FRAME,FRONT
MP 2	1	R76G-992	FOOT-992
MP 3	1	R76G-992	FOOT-992
MP 4	1	R76G-992	FOOT-992
MP 5	1	R76G-992	FOOT-992
MP 6	1	R76JKGLS14S	SUPPORT KGLS-14S:PCB
MP 7	1	R76JKGLS14S	SUPPORT KGLS-14S:PCB
MP 8	1	R76JKGLS14S	SUPPORT KGLS-14S:PCB
MP 9	1	R76K-B312250	BUSHING-B312-250
MP 10	1	2G580698-2FH	P5512A PLATE,REAR
MP 11	1	2G590597-3WB	P5512A FRAME,LOWER LH
MP 12	1	2G590598-1WB	P5512A FRAME,UPPER RH
MP 13	1	2G611521-0WD	P5512A CASE:HI-TENS
MP 14	1	2G630581-0A	P5512A PANEL
MP 15	1	2G760518-0A	P5512A ESCUTCHEON
MP 16	1	3G530514-0WA	P5512A DIAL:SWEEP
MP 17	1	3G590648-1BB	P5512A FRAME,UPPER LH
MP 18	1	3G614028-0ED	P5512A COVER:HI-TENS
MP 19	1	3G614029-1CB	P5512A SHIELD:V-H
MP 20	1	3G710402-0N	9551A BAG:PACKING
MP 21	1	3G760037-0C	KNOB,14D6A
MP 22	1	3G760037-0C	KNOB,14D6A
MP 23	1	3G760038-0C	KNOB,23F6A
MP 24	1	3G760038-0C	KNOB,23F6A
MP 25	1	3G760041-0C	PUSHBUTTON,5X6 GREEN
MP 26	1	3G760041-0C	PUSHBUTTON,5X6 GREEN
MP 27	1	3G760041-0C	PUSHBUTTON,5X6 GREEN
MP 28	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 29	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 30	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 31	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 32	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 33	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 34	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 35	1	3G760042-0C	PUSHBUTTON,5X6 BLACK

MECHA DWG NO 4G302691-1

REF NO	QTY	PART NO	DESCRIPTION
MP 36	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 37	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 38	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 39	1	3G760042-0C	PUSHBUTTON,5X6 BLACK
MP 40	1	3G760515-0C	KNOB,10N6AF
MP 41	1	3G760515-0C	KNOB,10N6AF
MP 42	1	3G760515-0C	KNOB,10N6AF
MP 43	1	3G760515-0C	KNOB,10N6AF
MP 44	1	3G760515-0C	KNOB,10N6AF
MP 45	1	3G760515-0C	KNOB,10N6AF
MP 46	1	3G760515-0C	KNOB,10N6AF
MP 47	1	3G760519-1G	P5220A FOOT,REAR
MP 48	1	3G760519-1G	P5220A FOOT,REAR
MP 49	1	3G760519-1G	P5220A FOOT,REAR
MP 50	1	3G760519-1G	P5220A FOOT,REAR
MP 51	1	3G760520-1H	P5220A SHAFT:POWER
MP 52	1	3G760544-0C	KNOB:LEVER SWITCH,J19-U
MP 53	1	3G760544-0C	KNOB:LEVER SWITCH,J19-U
MP 54	1	3G760544-0C	KNOB:LEVER SWITCH,J19-U
MP 55	1	3G760544-0C	KNOB:LEVER SWITCH,J19-U
MP 56	1	3G760544-0C	KNOB:LEVER SWITCH,J19-U
MP 57	1	3G760544-0C	KNOB:LEVER SWITCH,J19-U
MP 58	1	3G760545-0C	KNOB,14D8AF
MP 59	1	4G530513-2K	P5220A FILTER:CRT
MP 60	1	4G540024-0B	P385B SPRING
MP 61	1	4G540129-2FB	P5520A SPRING:GRD-B
MP 62	1	4G540564-0F	P5512A SPRING:FILTER
MP 63	1	4G580602-0AF	P5512A COVER:CRT
MP 64	1	4G615528-2XB	P5503A BAND:CRT
MP 65	1	4G617077-0BB	P5512A HOLDER:PWR SWITCH
MP 66	1	4G617079-1EB	P5512A HOLDER:SHIELD V-H
MP 67	1	4G617080-0BB	P5512A PLATE:BNC GRD
MP 68	1	4G617080-0BB	P5512A PLATE:BNC GRD
MP 69	1	4G617082-0BB	P5512A HOLDER:POWER PCB
MP 70	1	4G617082-0BB	P5512A HOLDER:POWER PCB
MP 71	1	4G617083-0EB	P5512A HOLDER:V-PRE PCB
MP 72	1	4G617084-0WB	P5512A HOLDER:LAMP
MP 73	1	4G617086-0AB	P5512A PLATE:SLIDE SW
MP 74	1	4G617098-0DB	P5512A PLATE:BNC GRD-2
MP 75	1	4G617098-0DB	P5512A PLATE:BNC GRD-2
MP 76	1	4G617099-0AB	P5512A COVER:INPUT
MP 77	1	4G633135-0L	M8125 LABEL,HI-VOLTAGE
MP 78	1	4G644135-1AB	P513A SPACER 3X20
MP 79	1	4G644135-1AB	P513A SPACER 3X20
MP 80	1	4G644146-2AB	SPACER 3X25

MECHA DWG NO 4G302691-1

REF NO	QTY	PART NO	DESCRIPTION
MP 81	1	4G644146-2AB	SPACER 3X25
MP 82	1	4G650515-1M	P5512A SHIELD:CRT
MP 83	1	4G702079-0A	P5410A WASHER:BNC,INS
MP 84	1	4G702713-0G	P5512A INSULATOR
MP 85	1	4G702652-1G	P5512A INSULATION:POWER
MP 86	1	4G702653-0G	P5512A COVER:HI-VOLTAGE
MP 87	1	4G712047-0N	9549A BAG:PACKING
MP 88	1	4G712649-0N	BAG:ACCESSORY,PLAIN
MP 89	1	4G720563-0FB	P5512A INSERTION:KNOB
MP 90	1	4G760006-1K	D9 BUSHING:RUBBER
MP 91	1	4G760086-1H	P5410A SPACER:BNC,INS
MP 92	1	4G760122-0C	KNOB,10D3U
MP 93	1	4G760122-0C	KNOB,10D3U
MP 94	1	4G760122-0C	KNOB,10D3U
MP 95	1	4G760123-0C	KNOB,12D3U
MP 96	1	4G760123-0C	KNOB,12D3U
MP 97	1	4G760170-0X	P5503A RUBBER,HLDR:CRT-A
MP 98	1	4G760170-0X	P5503A RUBBER,HLDR:CRT-A
MP 99	1	4G760171-0X	P5503A RUBBER,HLDR:CRT-B
MP 100	1	4G760219-0C	KNOB,42T9A
MP 101	1	4G760506-0C	KNOB:14N6A
MP 102	1	4G760506-0C	KNOB:14N6A
MP 103	1	4G780524-0N	P5220A GUARD:CRT
MP 104	1	2G590596-3WB	P5512A FRAME,LOWER RH
MP 105	1	2G650503-0L	P5512A SHIELD,PIPE
MP 106	1	3G590649-1EB	P5512A CHASSIS:BEAM
MP 107	1	4G617078-0BB	P5512A BRACKET:V-MODE
MP 108	1	4G601087-0W	P5230A TERMINAL:CAL
MP 109	1	4G601516-0W	TERMINAL-F:GRD
MP 110	1	4G760556-0C	KNOB,23C6U
MP 111	1	2G590599-1EB	P5512A CHASSIS,MID
MP 112	1	3G614027-1FB	P5512A CHASSIS:CRT
MP 113	1	4G712649-0N	BAG:ACCESSORY,PLAIN
MP 114	1	4G712648-0N	Q056 BAG:PACKING,PLAIN
MP 115	1	R76K-SB500-6	BUSHING SB-500-6
MP 116	1	4G633135-0L	M8125 LABEL,HI-VOLTAGE
MP 117	1	4G644556-0BB	STUD 3X20

COVER DWG NO 4G302692-1

REF NO	QTY	PART NO	DESCRIPTION
	1	3G670573-0K	P5512A HANDLE
MP 201	1	R55K-82M20	HANDLE STOPPER SA-105
MP 202	1	R55K-82M20	HANDLE STOPPER SA-105
MP 203	1	R76K-SB375-4	BUSHING-SB-375-4
MP 204	1	R76K-SB375-4	BUSHING-SB-375-4
MP 205	1	R76K-SB375-4	BUSHING-SB-375-4
MP 206	1	R76K-SB375-4	BUSHING-SB-375-4
MP 207	1	2G580696-0CF	P5512A COVER,UPPER
MP 208	1	2G580697-1CH	P5512A COVER,BOTTOM
MP 209	1	2G550503-0J	P5512A HANDLE ASSY

PACKAGE DWG NO 4G302887

REF NO	QTY	PART NO	DESCRIPTION	
	1	2G710214-1E	KP-580 CUSHION,FRONT	
	1	2G710215-1E	KP-580 CUSHION,REAR	
	1	4G712145-1A	KP-580 CARTON BOX	
	1	4G712622-0J	KP-580-B PAD	
MP 251	1	580BN2	KP580B PACKING KIT:PLAIN	
	1	VQ-030G	ACCSSRY BOX	4G300670
	1	VQ-035J10	HOOD	4G302693
	1	MEP5512P-0	INSTRUCTION MANUAL	

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